NOV 22 1938

THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

Production and Distribution of Bonneville Power
BAYARD O. WHEELER

The Selection of a Business Site
MALCOLM J. PROUDFOOT

Property Rights and Tax Delinquency
H. K. ALLEN

The Winnipeg Municipal Electric Utility
LAWRENCE S. DREIMAN

Settler Relocation
A. D. WILSON

Tax Receivership
RUSSELL SHERMAN BERNHARD

Obsolescence of Utility Property
C. EMERY TROXEL

Land Credit Practices and Farm Bankruptcy
R. R. RENNE

DEPARTMENTS: Real Estate Appraisal for Tax Purposes—Lawrence G. Holmes; Current Trends in Real Estate—Mary Kirsten; Attacking Non-Conforming Uses—D. E. Mackelmann; New Uses of County Zoning—J. M. Albers; The Federal Natural Gas Act—Barclay J. Sickler; EEI's Farm Electrification Statistics—Warren H. Marple.

VOLUME XIV, NUMBER 4 NOVEMBER, 1938 PRICE $1.25 A COPY

ECONOMICA

ECONOMICA is issued quarterly by the London School of Economics & Political Science in February, May, August and November. It publishes the results of original researches into all the aspects of Economics, Economic History and Statistics, and receives contributions from leading British, American and Continental economists. After seventeen years constant growth and expansion the Journal has made itself practically indispensable to progressive teachers and students of economics and is increasingly read and appreciated by those engaged in public undertakings throughout the world.

ANNUAL SUBSCRIPTION: 15s

Single copies, 4s. 6d, post free

Subscriptions and enquiries should be addressed to the Publications Dept., London School of Economics, Houghton St., Aldwych, London W. C. 2., England.

AMERICAN ECONOMIC ASSOCIATION

THE American Economic Association has as its purpose the encouragement of economic research, especially the historical and statistical study of the actual conditions of industrial life, the issue of publications on economic subjects, and the encouragement of perfect freedom of economic discussion. The Association as such takes no partisan attitude, nor will it commit its members to any position on practical economic questions.

Membership entitles one to receive the *American Economic Review* and the proceedings of the annual meetings.

ANNUAL MEMBERSHIP - $5.00
LIFE MEMBERSHIP - - $200.00

Applications for membership should be sent to:

The Secretary,
AMERICAN ECONOMIC ASSOCIATION
Northwestern University, Evanston, Illinois

THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

CONTENTS — NOVEMBER, 1938

The Production and Distribution of Bonneville Power. BAYARD O. WHEELER 359
The Selection of a Business Site ..... MALCOLM J. PROUDFOOT 370
Forfeiture of Real Property Rights through Tax Delinquency ..... H. K. ALLEN 382
The Winnipeg Municipal Electric Utility: I. Rate Policy and Rates Charged ..... LAWRENCE S. DREIMAN 388
Settler Relocation: A Description of the Minnesota Plan ..... A. D. WILSON 402
Tax Receivership: Five Years of Experience in Chicago ..... RUSSELL SHERMAN BERNHARD. 417
II. Obsolescence of Public Utility Property ..... C. EMERY TROXEL 431
Land Credit Practices and Successful Farm Operation. R. R. RENNE 442

DEPARTMENTS

Urban Land

Appraising Real Estate for Tax Purposes: The Income Method ..... LAWRENCE G. HOLMES 452
Current Trends in Real Estate ..... MARY KIRSTEN 454
A Coordinated Attack on Non-Conforming Uses. D. E. MACKELMANN 458

Land Resources

New Uses for County Zoning: The Jefferson County, Wisconsin Ordinance ..... J. M. ALBERS 460
Tennessee Farm Tenure Activities ..... H. C. HOLMES and J. A. Elliott 462

Public Utilities

The Federal Natural Gas Act ..... BARCLAY J. SICKLER 466
Public Utility Financing in the Third Quarter of 1938 ..... E. D. OSTRANDER 468
An Appraisal of Edison Electric Institute's Statistics on Farm Electrification ..... WARREN H. MARPLE 471

Index 477

PUBLISHED QUARTERLY BY NORTHWESTERN UNIVERSITY
DURING THE MONTHS OF FEBRUARY, MAY, AUGUST, AND NOVEMBER

Publication office: 450 Ahnaip St., Menasha, Wis.
Editorial and General offices: Northwestern University, School of Commerce, 337 East Chicago Ave., Chicago, Ill.
The contents of the *Journal* are indexed in the *Industrial Arts Index.*

Entered as second-class matter, January 3, 1938, at the post-office at Menasha, Wis., under the Act of March 3, 1879. Additional entry at Chicago, Illinois. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized October 12, 1922. Printed in the United States of America.

Subscription Rates: $5 a year; $1.25 a copy. Remittances may be made by personal checks, drafts, post-office or express money orders, payable to the Journal of Land & Public Utility Economics.

Agents of the *Journal* in Great Britain, B. F. Stevens & Brown, Ltd., 28-30 Little Russell St., British Museum, London, W. C. 1.

Copyright: Contents of this issue are covered by copyright, 1938, by Northwestern University. Copyright, 1938, in Great Britain.

Advertising rates furnished on application.

THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

Founded by RICHARD T. ELY

Published by Northwestern University

BOARD OF EDITORS

PAUL JEROME RAVER, *Chairman*
Associate Professor of Public Utilities, Northwestern University; Executive Officer, Illinois Commerce Commission.

MORTON BODFISH
Formerly Member, Federal Home Loan Bank Board; Executive Vice President, United States Building and Loan League; Associate Professor of Land Economics, Northwestern University.

FREDERICK S. DEIBLER
Professor of Economics, Northwestern University.

EARL H. DELONG
Assistant Professor of Political Science, Northwestern University.

RICHARD T. ELY
President, Institute for Economic Research, New York City.

FRED D. FAGG, JR.
Dean, School of Commerce, Northwestern University.

HAROLD C. HAVIGHURST
Professor of Law, Northwestern University School of Law.

E. W. MOREHOUSE
Director, Division of Rates and Research, Public Service Commission of Wisconsin.

HORACE SECRIST
Professor of Economics and Statistics, Northwestern University.

HERBERT D. SIMPSON
Professor of Public Finance, Northwestern University.

FRANKLYN BLISS SNYDER
Vice President and Dean of the Faculties, Northwestern University.

HENRY C. TAYLOR
Director, Farm Foundation, Chicago.

GEORGE S. WEHRWEIN
Professor of Agricultural Economics, University of Wisconsin.

COLEMAN WOODBURY
Executive Director, National Association of Housing Officials; Member, Executive Committee, International Federation for Housing and Town Planning; Member, Chicago Housing Authority.

HELEN C. MONCHOW, *Managing Editor.*

The contributors to this number include:

Bayard O. Wheeler, Assistant Professor of Economics and Business Administration, Oregon State College.

Malcolm J. Proudfoot, Assistant Geographer, Bureau of the Census, Department of Commerce.

H. K. Allen, Department of Economics, University of Illinois.

Lawrence S. Dreiman, Teaching Assistant in Economics, School of Business Administration, University of Minnesota.

A. D. Wilson, Project Manager, Farm Security Administration, Baudette, Minnesota.

Russell Sherman Bernhard, of the Institute of Public Finance, Northwestern University; Research Director, Chicago Citizen's Committee on Tax Collection.

C. Emery Troxel, Assistant Professor of Economics, Wayne University.

R. R. Renne, Head of the Department of Economics and Sociology, Montana State College, and Agricultural Economist, Montana Agricultural Experiment Station.

Lawrence G. Holmes, Secretary, National Committee on Real Estate Taxation, National Association of Real Estate Boards.

Mary Kirsten, Editorial Assistant to the Executive Vice President, United States Building and Loan League.

D. E. Mackelmann, Executive Director, Metropolitan Housing Council, Chicago.

J. M. Albers, Areal Planning Engineer, Wisconsin State Planning Board.

H. C. Holmes, Farm Management Department, Cooperative Extension Work, College of Agriculture, University of Tennessee.

J. A. Elliott, Farm Management Department, Cooperative Extension Work, College of Agriculture, University of Tennessee.

Barclay J. Sickler, Chief Statistician, Public Service Commission of Wisconsin.

E. D. Ostrander, Supervisor, Rates and Research Section, Illinois Commerce Commission.

Warren H. Marple, Executive Secretary, State Rural Electrification Committee, and Assistant to the Executive Officer, Illinois Commerce Commission.

Fifty Years of Title Guarantee Protection

Fifty years ago, on February 17, 1888, the first title guarantee policy ever written in Illinois was issued by the Title Guarantee and Trust Company, one of the ancestors of Chicago Title & Trust Company. Thus it is half a century since effective property protection in Cook county became a fact. Today, tens of thousands of men and women in all walks of life depend upon this title service for protection against loss.

While 1888 marked the beginning of the title guarantee system in Illinois, ancestor companies of Chicago Title & Trust Company had been active in the title business since 1847. The title history of every piece of ground in Cook county can be found in our vast records. They cover deeds, mortgages, judgments, court proceedings, tax levies, assessments and other matters relating to real estate.

These priceless records are the sound base of our title guarantee policies. Many pieces of property which could not otherwise have been put on the market have been sold on the strength of a Chicago Title & Trust Company policy. Insurance companies, banks and other lenders have loaned huge sums on their security.

Today, as for fifty years, this company's title guarantee policies are a firm foundation for the ownership and transfer of Cook county property.

CHICAGO TITLE & TRUST COMPANY

69 West Washington Street, Chicago

SOCIAL RESEARCH

An international quarterly, founded in 1934, published by the

GRADUATE FACULTY OF POLITICAL AND SOCIAL SCIENCE

of the New School for Social Research, New York

Contents for November 1938 (Volume V, Number IV)

F. A. HERMENS .....The Trojan Horse of Democracy
ARTHUR FEILER .....International Trade under Totalitarian Governments
FELIX KAUFMANN.....The Significance of Methodology for the Social Sciences
FRITZ LEHMANN .....Security Prices, Investment Values and Speculation (Note)
SIDNEY HOOK .....Eduard Heimann on the "Revolutionary Situation" (Note)
EDUARD HEIMANN .....Rejoinder

Book Reviews

Published in February, May, September and November

Subscription $2 a year (Foreign $2.50)—Single copies 50 cents

(After January 1, 1939, $3 a year, Foreign $3.50, except for subscribers renewing before that date; single copies 75 cents.)

66 West 12th Street, New York, N.Y.

THE VOICE WITH A *Smile*

NORTH

SOUTH

EAST

WEST

It may carry the salty twang of New England or the soft accents of the South.

It may be swift and crisp in the New York manner or full of the pleasant rolling r's in the style of the West.

But wherever you hear it, it will be friendly, courteous, and efficient.

It's the all-American voice of the Bell Telephone operator —"The Voice with a Smile."

The entire Bell System seeks to serve you quickly, capably and in the spirit of a friend.

BELL TELEPHONE SYSTEM

THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

NOVEMBER 1938

VOLUME XIV
NUMBER 4

The Production and Distribution of Bonneville Power

By BAYARD O. WHEELER*

FEDERAL power became a reality in the Pacific Northwest on September 28, 1937. On that date President Roosevelt pressed a button starting two hydro-electric generators installed at Bonneville Dam on the Columbia River.

This dam checks the westerly flow of the Columbia River 42 miles east of Portland. At this point the River breaks into two channels separated by Bradford Island. The center of the north channel is the boundary line between Oregon and Washington, thus providing a strategic point for interstate transmission of power. A spillway dam crosses the north channel while the powerhouse and navigation lock spread across the south channel, with the lock near the Oregon shore.

Ostensibly the project exists " . . . for the purpose of improving navigation on the Columbia River and for other purposes incidental thereto . . . ," but in this, as in other federal power projects, such as Wilson Dam, power production is far from being of minor importance.[1] According to the Army Engineers, improvement of the Columbia and minor tributaries relates to efficient development of water power, control of floods, and the needs of irrigation in addition to navigation.[2] It should be noted, however that the office of the Chief of Engineers of the United States War Department in its 1932 report concludes, in part, that "Flood control is a minor interest and susceptible of easy solution by local interests."[3] In addition, navigation alone in the non-tidal section of the River is not considered economically feasible by the office of the North Pacific Division of the United States Army Engineers reporting that "Dams for navigation alone would not be justified. Power considerations should, in the main, control the location and height of dams."[4] Irrigation in the Bonneville Lake region fares no better for the same report concludes: "The results of studies made by both the Seattle and Portland districts of irrigable areas along the Columbia,

* Assistant Professor of Economics and Business Administration, Oregon State College.

[1] Public No. 329, c. 720, 75th Cong., 1st sess.

[2] *Columbia River and Minor Tributaries, 1933-34* (2 vols.), House Document 103, 73rd Cong., 1st sess. (Washington: Government Printing Office, 1933), Vol. 1, p. 1.

[3] *Ibid.*, Vol. 1, p. 4 (d).

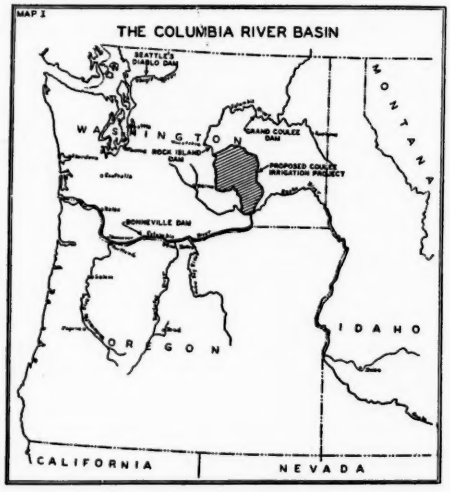
[4] *Ibid.*, Vol. 1, p. 82(g).

not now irrigated, definitely demonstrate that none of these areas can be considered as economically feasible at this time . . . "[5] Thus it seems that Army Engineers believe that production of power is the prime reason for construction of Bonneville Dam, considered as an isolated unit.

Purpose of the Bonneville Project

This raises an interesting question concerning the legality of the project. Control of interstate commerce and war powers give Congress the right to build dams as aids to navigation and national defense.[6] In this case, navigation is held to be relatively unimportant, thus weakening the argument for federal interstate commerce control. This might well throw the burden of proof upon war defense and electric power production. The legality of the former has been established in conjunction with navigation, but the status of the latter, apart from other benefits, is less clear.[7]

Such narrow legal construction may not apply when one considers improvement of the Columbia Basin in its entirety. The really significant issue is centered here, for Bonneville is planned as only one unit in a chain of 10 dams on the Columbia proper. Others are proposed for such tributaries as the Snake and the Willamette Rivers. The overall improvement of this vast Northwest region, extending from the Canadian border to the boundary of California and including 3/4 of Idaho and part of Western Montana, would doubtless be considered legitimate federal promotion of public welfare. Grand Coulee Dam, under construction in eastern Washington by the United States Bureau of Reclamation, for example, is expected to provide water for a vast irrigation project estimated at 1,200,000 acres (Map I). A large block of power generated at this site will be used for pumping pur-



poses in connection with irrigation.[8] Ultimate utilization of the resources of the Columbia River should provide a regional system which

" . . . would develop for power purposes 92.3% of the total head between the international boundary and tidewater, and all of the head economically developable. It would receive full benefit of storage and regulation in the tributaries, as may be created, in the future. It would benefit navigation by furnishing, except at high water, slack-water conditions. It would permit irrigation of large tracts of land on both sides of the river in Oregon and Washington. It would confer incidental benefits upon lowlands along the

[5] *Ibid.*, Vol. 1, p. 84(n). This relates to the section of the River most affected by Bonneville from tidewater to the mouth of the Snake River.

[6] *George Ashwander, et al. v. Tennessee Valley Authority et al.*, 403–404 U.S. 297 (1936). (Known as the Ashwander case.) For a discussion of this decision see Martin G. Glaeser, "The TVA Decision of the United States Supreme Court," 12 *Journal of Land & Public Utility Economics* 207–8 (May, 1936).

[7] Cf. Ashwander case. For a discussion of federal control of electric power production, see Frank R McNinch, "The Evolution of Federal Control of Electric Power," 12 *Journal of Land & Public Utility Economics* 111–9 (May, 1936).

[8] "The Columbia Basin Project," Hearings before the Committee on Irrigation and Reclamation, House of Representatives, 72nd Cong., 1st sess. (Washington: Government Printing Office, 1932).

tidal sections of the river through reductions of flood heights."[9]

History of the Development

Although Bonneville Dam is part of the New Deal public works program, the plan to build such a structure dates back to 1916. The Oregon state engineer's report for that year includes a plan for a dam for navigation and power.[10] Federal proposals to dam the Columbia followed in the second Wilson administration. By 1922 the idea received General Goethals' approval and "by 1926 Herbert Hoover, then Secretary of Commerce had characterized the construction of the Columbia project as inevitable, and President Coolidge predicted that the project was not far distant."[11] Congress authorized comprehensive surveys of water resources of the principal drainage basins in the United States in 1927. The Columbia Basin was included along with a comprehensive plan for construction of a series of dams on the River. This report omitted Bonneville, but upon review in 1932 a different engineering personnel recommended a dam at the present Bonneville site.

Construction of the dam was assured under the authority of the first PWA Act in 1933. The Chief of Army Engineers approved the project as "useful" under the requirements of work relief legislation. The sum of $20,000,000 was provided for initial work, and construction began early in 1934. Construction progressed according to schedule under the Corps of Army Engineers. By the middle of 1937 elaborate fishways to accommodate migratory salmon, a single lift lock for ocean vessels up to a normal depth of about 27 feet, and two generators of 43,200 kws. each had been completed, in addition to the dam proper. Facilities have been provided in the present construction for four more generating units of about 52,000 kws. each. Provision has also been made for installation of four additional units on which only sufficient construction has been done to insure that they can be installed when required. Power installation for ultimate development thus calls for 10 generating units with a total capacity of not less than 500,000 kws. Generators will be added in stages as Congress may direct, in increments of about 104,000 kws.[12] Presumably the market demand for power will control the rate of installation. Funds have already been obtained for two additional generators.

Legislative Background

Construction of the dam appears simple compared with the controversy arising over its administration. Even after completion of the dam, quarreling economic interests could not agree upon the best type of administrative authority.[13]

[9] *Columbia River and Minor Tributaries, 1933-34, op. cit.*, Vol. 1, p. 84, Part IV (1).

[10] Statement by C. I. Grimm, Head Engineer, U. S. Engineer's Office, in charge of Bonneville construction as reported in 19 *Commonwealth Review* 44 (May, 1937).

[11] Statement by E. H. Foley, Jr., General Counsel, Public Works Administration, as reported in *Ibid.*, at p. 37.

[12] "The Bonneville Project," Mimeo Bulletin, U. S. Dept. of the Interior.

[13] See Hearings before Committee on Commerce, United States Senate. Completion of and operation of the Bonneville Project, 75th Cong., 1st sess. on S. 2092, Part 1, June 29, 1937; Part 2, August 4, 1937.

Hearings before a Sub-Committee of the Committee on Agriculture and Forestry, United States Senate. Navigation and flood control on the Columbia River and its tributaries, 74th Cong., 2nd sess. on S. 869, S. 330, S. 4178 and S. 4566, May 7–9, 13, 1936.

Hearings before the Committee on Rivers and Harbors, House of Representatives:

1. Columbia River (Bonneville Dam) Oregon and Washington, 74th Cong., 2nd sess. on H.R. 12873, H.R. 12875, H.R. 12895 and H.R. 12899, June 3, 4, 8, 1936.
2. Columbia River (Bonneville Dam) Oregon and Washington, 75th Cong., 1st sess. on H.R. 7642, March, April, May, and June, 1937.

The testimony in these committee hearings illuminates the wide divergence of opinion concerning use of Bonneville power. Points of difference center around:

1. Administration of the project;
2. Rates and cost allocation;

(*Footnote 13 continued on page 362*)

Here was a unique situation—a project ready for use with no one authorized to operate or manage it. No solution was reached until August 20, 1937, when a bill was enacted "To authorize the completion, maintenance and operation of Bonneville project for navigation and for other purposes."[14]

The importance of this Act should not be underestimated. Its provisions outline the general policies that will doubtless prevail upon completion of other similar federal projects in this region. Although the Act itself represents a compromise between local factions and between local, regional, and federal interests,[15] it follows, in the main, the recommendations of the Federal Power Policy Committee appointed by the President on January 19, 1937.[16] The general problem and the tenor of its solution are succinctly stated by President Roosevelt in his letter appointing the committee:

"Power from the Bonneville project will be available for distribution this year. Therefore, legislation is immediately necessary. At the same time, it is highly advisable that such legislation conform to a national power generating, transmitting, and distributing policy, such policy to be uniform as far as practicable or advisable. This does not mean identical rates in every part of the country but it does mean uniformity of policy. This policy, once established, will apply to existing projects, such as Boulder Dam and portions of the T.V.A. and to all new power developments as they are completed during the next few years."[17]

Examination of the Act discloses provisions covering four phases: (1) administration of the project; (2) cost allocation; (3) wholesale rate structure; and (4) marketing of power. These provisions seem to cover the most important aspects of federal policy. In the following discussion an attempt will be made to examine each in the light of conditions peculiar to the area.

Administration of the Project

The Secretary of War and the Chief of Engineers are charged with the completion, maintenance, and operation of the physical equipment, including the dam, locks, power plant, and machinery.[18] Disposal of electric energy is placed in the hands of an Administrator to be appointed by and responsible to the Secretary of the Interior.[19] He must act in consultation with an advisory board of four members composed of representatives designated by the Secretaries of War, Interior, and Agriculture

(*Footnote 13 continued from page 361*)

3. Extent of the market; and
4. Consumer allocation of power.

Those supporting the attitude taken by the Portland Chamber of Commerce were generally in favor of administration of power distribution by the Army Engineers, and "equitable" division of capital and maintenance cost between power and navigation, including interest on investment and an allocation of at least 50% of power for industrial use at low bus-bar rates. This group held that the initial market demand for consumer use would be too small to provide low rates and full utilization of potential energy. In this they were supported by the Oregon State Planning Board.

Those favoring "widest possible use," with preference to urban and rural domestic users, came largely from people's utility power districts, state granges, and members of the Federal Government planning and power policy boards. The President expressed a desire for wide use in his dedicatory address at the dam site on September 28, 1937. The discussion of the potential market and the rate structure in this article still further illustrate the above differences of opinion.

[14] Public No. 329, 75th Cong., 1st sess.

[15] House and Senate Committee Hearings cited in footnote 13 above, especially the hearings on H.R. 7642 which was amended and passed as Public No. 329.

[16] This Committee consisted of Secretary of Interior Harold L. Ickes; Frederic A. Delano, vice-chairman, National Resources Committee; James M. Landis, Securities & Exchange Commission; John M. Carmody, Administrator, Rural Electrification Administration; and Frank R. McNinch, Chairman, Federal Power Commission.

[17] Reproduced in 19 *Commonwealth Review* 37 (May, 1937).

[18] Public No. 329, §1.

[19] Mr. J. D. Ross of Seattle, Washington was appointed Administrator on October 10, 1937. He is manager of Seattle's municipal city light system, and a former member of the Securities & Exchange Commission.

and by the Federal Power Commission. The form of administration is provisional, pending establishment of a permanent administration for Bonneville and other projects in the Columbia River Basin.[20] This functional division between the Army Engineers and the Administrator arises from the dissimilarity of activities and problems confronting each. In addition, Grand Coulee power, when available, will be integrated with the Bonneville project, thus calling for consistent marketing policies.

Since the main function of the Administrator is to sell available power as rapidly as markets can be found, he is authorized to construct, operate, maintain, and improve electric transmission lines, substations, and other needed facilities.[21] In furtherance of this purpose, he is given authority to acquire property by eminent domain.[22] Preferences and priorities must be given to public bodies and cooperatives. Section 4a of the Act states:

"In order to insure that the facilities for the generation of electric energy at the Bonneville project shall be operated for the benefit of the general public, and particularly of domestic and rural customers, the Administrator shall at all times, in disposing of electric energy generated at said project, give preference and priority to public bodies and cooperatives."

Section 4b states, in part,

" . . . and to effectuate the intent and purposes of the Act that at all times up to January 1, 1941, there shall be available for sale to public bodies and cooperatives not less than fifty percentum of the electric energy . . . "

By July 9, 1938 transmission lines to Cascade Locks, Oregon, and to North Bonneville, Washington, were completed and power deliveries followed immediately. Survey of transmission-line routes from Bonneville to Vancouver, Washington, and Portland, Oregon, has been completed and clearance of land started August 1, 1938. Surveys are under way eastward to The Dalles, Yakima, Pasco, and Grand Coulee; northward to Kelso and Aberdeen; and southward to Salem and Eugene (see Map I). A PWA allotment of $10,750,000 has been obtained for transmission-line extensions.[23]

Cost Allocation

Rates and market absorption of power are a function of the capital and interest costs allocable to power production and transmission. Section 7 of the Act reads:

"Rate schedules shall be drawn having regard to the recovery of the cost of producing and transmitting such electric energy, including the amortization of the capital investment over a reasonable period of years. Rate schedules shall be based upon an allocation of costs made by the Federal Power Commission."

On February 8, 1938 the Federal Power Commission announced cost allocation as follows:

1. $11,682,400 of an approximate total cost of $51,892,000 for the project by June 30, 1938 is charged to power development. This allocation consists of $9,180,500 representing the entire cost of power facilities, plus $2,501,900 which is 1/5 of 32.5% of the $38,490,700 of facilities having a joint value for both power and navigation. This is exclusive of interest during the construction period which is estimated to be

[20] *Ibid.*, §2a.
[21] *Ibid.*, §2b.
[22] *Ibid.*, §2d.
[23] "Bonneville Project," *Bulletin* No. 22, Dept. of Interior, July 27, 1938.
This money will provide for the following lines and substations in Washington and Oregon: (1) a 230 kv. line from Bonneville to Grand Coulee via Yakima, Washington; (2) a 110 kv. line from Bonneville to The Dalles, Oregon; (3) a 230 kv. line from West Vancouver to Kelso, Washington; and (4) a 110 kv. line from West Vancouver to Eugene, Oregon. Funds have already been allotted for 36 miles of 220 kv. transmission line from Bonneville power house to Vancouver, Washington.

1.54271%.[24] Cost of the power house and machinery is to be borne by the hydro-electric development exclusively, while the lock is strictly a navigation expense. The dam and fishways will be borne by both navigation and power, power bearing 32½% of the joint cost.

2. The finished dam, with 10 generating units, will cost $74,044,600, of which 57% (or $42,181,175) will be charged to power. Income from energy sales supposedly will write off this charge, plus interest of 3½% on capital investment and annual operating and transmission expenses in 40 years.[25]

It is of interest to observe that this allocation differs markedly from that worked out by the War Department Engineers in 1937. Their estimate is presented in Table I.

Amortization is based upon a 50-year period and an interest rate of 4% is indicated.[26] The greatest difference between these two appraisals is in the allocation upon installation of the initial two units. The Federal Power Commission ratio of power cost to total cost is 23%, while the Army Engineers' ratio is 54%, or more than twice the Power Commission figure. One wonders how high the wholesale rates would be, despite a longer amortization period, had the Army figures prevailed.[27]

The major source of difference is in the proportion of the cost of joint facilities placed upon power. Army Engineers distribute 50% to power, while the Federal Power Commission placed the figure at 1/5 of 32.5% of the total.[28]

The Commission seems to be following the theory that, because 1/5 of the ultimate power capacity has been installed, then only 1/5 of the cost of the joint facilities is a just charge. This appears to be an arbitrary ruling and raises the question of future rates when the initial load-building period is over. Will the installation of more generating units, with allocation of additional blocks of joint investment, be accompanied by higher amortization and interest charges?[29]

Wholesale Rate Structure

The rate structure provides for four schedules covering primary and secondary power at wholesale on the transmis-

[24] This interest rate is the weighted average rate paid on all money borrowed by the United States during the period from November 1, 1933 to December 31, 1937, including both long- and short-term financing.

[25] Army Engineers estimate that $279,200 per annum will take care of operating expenses for the initial two generators of 86,400 kws. ("The Bonneville Project," *Bulletin* No. 8, Dept. of Interior, March, 7, 1938.)

[26] Hearings before the Committee on Rivers and Harbors, House of Rep. on H.R. 7642, p. 19.

[27] General Markham's estimate was 1.53 mills per salable kilowatt-hour. This would be the average revenue required to permit complete amortization of power costs at 4% interest over 50 years (*Ibid.*, p. 18).

[28] For a detailed analysis of comparative figures consult, *Engineering News Record*, Feb. 17, 1938, p. 247.

[29] A penetrating criticism appears in *Electrical West*, March, 1938, p. 71.

TABLE I. ALLOCATION OF FIRST COST BETWEEN NAVIGATION AND POWER*

Item	Navigation	Allocation to Power with Installation of		
		2 units	6 units	10 units
Dam and reservoir....	$15,033,500	$15,033,500	Same as for two units	Same as for two units
Fishways.....	3,538,600	3,538,600	Same as for two units	Same as for two units
Buildings and grounds..	450,900	450,900	Same as for two units	Same as for two units
Navigation.....	5,631,300	—	—	—
Power.....	—	11,089,400	$20,474,800	$31,556,000
TOTAL.....	$24,654,300	$30,112,400	$39,497,800	$50,579,000

* Hearings before the Committee on Rivers and Harbors, House of Rep. on H.R. 7642, p. 17, Table 2. Part of testimony of Major General E. M. Markham, Chief of Engineers, War Department, Washington, D.C.

sion system and at the dam site.[30] These are:

Primary power on transmission system	$17.50 kilowatt-year
Primary power at dam site	14.50 kilowatt-year
Secondary power on transmission system	11.50 kilowatt-year
Secondary power at dam site	9.50 kilowatt-year[31]

All minimum quantity requirements are eliminated, and a special inducement to cooperative associations and other small users is offered for two years by a rate of ½¢ per kilowatt hour, regardless of the quantity taken up to 1,000 kws. Surplus power is to be disposed of at $2.88 per kilowatt-day on the transmission system, and $2.40 per kilowatt-day at the dam site.[32]

The kilowatt-year base resembles the Ontario hydro-electric rate policy, while the flat rates at the dam site and on the transmission system approximate the TVA "postage stamp" structure. The rates appear to be lower than those at TVA or Tacoma, Washington, and are about equal to those at Boulder Dam.[33]

The significance of the rate structure as a yardstick lies in the kilowatt-year as a consumption-time factor, the "overall" transmission of power on a "postage stamp" rate-base, and implicit acceptance of the "widest possible use" theory. The price per kilowatt-year is a wholesale price, while the public will buy at retail in the familiar kilowatt-hours. The Administrator has emphasized full and continuous use of available power.[34] In this regard he has contributed to the campaign long waged by public utilities

[30] Sections 5a and 6 of the Act relate to rate policy. Section 6 specifies that schedules of rates shall be prepared by the Administrator and approved by the Federal Power Commission. Schedules may be modified from time to time, and they " . . . shall be established and fixed with a view to encourage the widest possible diversified use of electric energy."

It is reported that the Administrator submitted nine schedules; four of which were accepted by the Federal Power Commission with only slight changes (81 *Electrical West* 44 (July, 1938)).

[31] A kilowatt-year is 1,000 watts of energy generated or delivered continuously for 365 days. A kilowatt-year contains 8,760 kwhs. It is of interest to note that a flat annual charge per kilowatt, per horsepower, or per lamp was the first method of rate-making used in California mining regions before the invention of electric meters or transmission of power over long distances. (See *Electrical West*, June, 1938, p. 152.)

[32] Schedules of Rates and Charges, The Bonneville Project, Department of Interior, June, 1938, Portland, Oregon.

Primary power is defined as that available 99.5% of the time. Secondary power is all power that can be produced in excess of that defined as prime. Surplus power is available power not under contract. Aggregate contract demands for "at site" power shall not exceed 20% of the installed generating capacity of the plant. Under all four schedules the demand for any month is defined as the highest integrated load during any *30-minute period* occurring in the calendar month for which the determination is made. The rates apply to contract demand or maximum billing demand, whichever is higher.

[33] *Electrical West*, June, 1938, p. 161.

The rates at Boulder Dam were fixed by the Secretary of the Interior in 1930 at 1.63 mills per kilowatt-hour for firm energy and ½ mill for secondary power. Boulder's biggest customers, the Los Angeles Bureau of Power and Light and the Los Angeles Metropolitan Water District, have asked for a reduction of rates and a revision of the Boulder Canyon Project Act of 1928 to "correct such inequalities as interest rates, allocation of construction costs and period of amortization." The Act provides for revenues adequate to repay the Government the cost of the reservoir, dam, and power plant at 4% interest within 50 years.

They claim that since the Act was passed federal policy on power, navigation, and flood control has changed. They specifically request:

1. That $25,000,000 allotted to flood control be removed from the power rate-base and that at least $5,000,000 additional be removed and allocated to navigation;
2. Extension of amortization of the cost of power generating equipment with interest at 4% from 10 to 50 years;
3. Extension of the load-building period to 15 years; and
4. Reduction of interest rate from 4% to 3%.

These alterations, it is contended, would merely bring the Act into conformity with federal policies at Bonneville, Grand Coulee, and the Tennessee Valley, thus permitting Southern California to compete with Portland and Seattle for industrial capital.

Examination of Bonneville's cost and rate structure reveals that Southern California's competitive industrial position is still secure despite Boulder rates and an unresponsive Congress. (See *Business Week*, September 11, 1937, pp. 37–8.)

[34] Consult bulletins on the Bonneville Project, Department of Interior, especially "The Kilowatt Year," 1938.

to educate people that schedules are usually framed to encourage additional use through follow-on rates, both on a monthly-block and a peak-demand basis. It has been a struggle for utilities to impress the public that energy cannot be delivered in small packages when required, but that time and amount required are significant variables in determining the cost of kilowatt-hours. The Administrator sums up the advantages of the kilowatt-year in these words:

"such basis of selling electricity would lead districts and cities to encourage all-day use of power. Instead of just having a few lights burning in the evening it would be economical to use power all through the day for irrigation, refrigeration, cooking, water heating and other appliances. Families would use more electrical equipment, irrigation would be encouraged, and everyone would benefit to the fullest from the hydro-electric heritage of the Columbia River and its tributaries."[35]

Marketing of Power

Achievement of a high average total peak demand with diversity of use and consequent low cost appears now to be a function of the retail distribution units within transmission distance of the dam. Every effort is being made by the Administrator to make retail consumers rate conscious. To implement this function, he has the legal right to influence resale rates of any public utility buying from the dam under contract. This is a sharp weapon, for Section 5a of the Act stipulates that such contracts shall contain such terms and conditions relevant to resale rates

" . . . as the Administrator may deem necessary, desirable or appropriate to effectuate the purpose of this Act and to insure that resale by such utility to the ultimate consumer shall be at rates which are reasonable and nondiscriminatory."

Announcement of a "postage stamp" rate schedule is of extreme importance in view of prevailing opinion. The justification of the project, for many people, lies in the type of rate structure established. Evaluation of the efficacy of "postage stamp" rate schedules in the Columbia River area is difficult until new experience accumulates. It has been argued, with statistics, that such a rate structure is not desirable at this time.[36] Contrariwise, the Federal Government justifies its action by enunciating a social philosophy of the "widest possible use."

Specifically, those who advocate differential wholesale rates seek to attract dam-site industries by relatively low bus-bar charges. It is claimed that projected trend curves, based upon present consumer use, reveal insufficient demand for all of Bonneville's potential capacity before 1945. The argument seems compelling when coupled with figures revealing an unfavorable regional balance of trade. Basic industries of the Pacific Northwest produce raw materials such as lumber and wheat. Distance from major markets destroys any possible advantage over competitive goods more favorably situated. Manufactured and semi-manufactured goods moving west must bear freight costs, thus placing, so it is contended, a double burden upon the Northwest populace.[37] Attracting large-scale manufacturing industries through

[35] "The Kilowatt Year," p. 2.

Electrified California farms requiring irrigation afford a good illustration of high average use with low cost. In 1937, the Pacific Gas & Electric Co. served 584,000 hp. of irrigation motors at an average of $15.25 per hp. per year. Farmers served used an average of only 912 kwhs. per hp. per year, or utilization of motors 12% of the time, yet on the average the total peak demand on the P. G. & E. system was used more than 60% of total time for the year. (*Electrical West*, June, 1938, p. 152.)

[36] "Use of Electricity in Oregon, with Forecasts of Future Demands," Oregon State Planning Board, September, 1936, p. 43 f. (Portland, Oregon). See also footnote 13 above.

[37] "Recommended Policies for Sale of Bonneville Power," Oregon State Planning Board, November 18, 1936, Portland, Oregon.

cheap power, thus furnishing a market for local raw materials and labor, is the road to regional equilibrium according to this line of reasoning.

There are reasons for questioning that logic. Projected trend lines of potential consumption, based upon a past normal, are purely hypothetical. Qualitative factors are likely to be neglected. An increasing rate of use of appliances and electricity per consumer may be more important in the future than increase in number of consumers. Experience of the Tennessee Valley Authority and the influence of the Rural Electrification Administration and the Electric Home and Farm Authority should not be minimized. Even Oregon, with its vast water resources, ranks sixth among the states in kilowatt-hour consumption per inhabitant and twelfth in average consumption per customer. Here is an open field for increasing vertical density of use. In addition, Oregon ranks eleventh in the per cent of farms electrified to total farms in the State.[38]

One instance of possible enlarged consumption is revealed in a study of the electric heating of residences in Seattle, Washington, made by the Washington Engineering Experiment Station in 1937. Heating of residences or, in general, space-heating is found to be more favorable in the Puget Sound area and the lower Columbia and Willamette valleys than in almost any other section of the United States. The prevailing mild climate and potential electric rates no higher than ½ cent per kilowatt-hour would permit this type of consumption to become a factor of great importance to the electric-power industry in the Pacific Northwest.[39]

The Bonneville Administrator finds market demand in excess of output for the two initial generators and has asked for installation of two more units. He predicts full utilization of all of Bonneville's 500,000 kilowatt potential by the time the power from Coulee Dam is available in two or three years. The bulk of demand comes largely from Washington State's 18 peoples' public utility power districts and from cooperatives and municipalities in both Oregon and Washington.[40] Industrial dam-site demand is thus relatively unimportant.[41]

The arguments advanced for the contribution of heavy industries to regional equilibrium appear specious, in part at least. The only large-scale industries especially adaptable to the region are of the electro-chemical, electro-metallurgical type using large blocks of electric energy. One study reveals that there are both raw materials and a market on the Pacific Coast for establishment of comparatively small electrically energized iron and steel plants with capacity in excess of one million tons. Electric energy rates would have to be on an average as low as 1.5 mills per kilowatt-hour to prove attractive to such enterprises in competition with the closest competing plants in Utah.[42] A fully integrated fer-

[38] "Use of Electricity in Oregon with Forecasts of Future Demands," pp. 16, 32.

[39] Magnusson, Carl Edward, "Electric Power Markets in Washington," Part 1, Electric Heating of Residences, Engineering Exp. Station Series, *Bulletin* No. 93, February, 1937, University of Washington, Seattle. A similar type of study was conducted in Toronto, Canada. Its findings demonstrated that the cost of electric heating in that region would be prohibitive. (Report on the Heating of Houses—Coal and Electricity Compared, Hydro-Electric Power Commission of Ontario, Feb. 28, 1918.)

[40] See Bulletins, "The Bonneville Project," U. S. Department of Interior.

[41] Only one concern, the Chipman Chemical Co. of Philadelphia, has openly shown interest in Bonneville power. Land has been purchased at Cascade Locks not far from the dam and plans are under way to manufacture sodium chlorate. It is reported that aluminum and steel companies are awaiting guarantee of low rates before building. See subsequent discussion on rate requirements for such industries.

[42] Report on "Available Raw Materials for a Pacific

(*Footnote 42 continued on page 368*)

tilizer industry and extension of the wood chemical industry are likewise considered economically feasible.[43] In all these industries power costs in relation to total manufacturing costs are relatively high while labor use and cost are low. Obviously, no greatly increased demand for Northwest labor would come from these enterprises. In addition, most of these new products must find markets external to the region.

The only existing basic Northwest industry which might be directly benefited is lumbering and here the problem is not so much market outlet as production control.[44] Increased payrolls would stimulate demand for local farm produce, but the problem of relatively high eastern manufactured producers' and consumers' goods would remain unsolved. Employment unbalance in the region arises from seasonal occupation in lumbering, grain, and fruit harvesting. It is not clear that establishment of heavy industries of the type indicated would solve this difficulty. It is more clear that the region might suffer acutely through business cycle dislocations that strike heavy goods industries with damaging effect.[45]

Despite the exigencies of the short-run situation there is reason to believe that Bonneville marks the initial stage in a vast power development in this region and on the whole Pacific Coast. Engineers have blueprinted plans for a super-power grid system tying in all generating and transmission units of the area from Canada to Mexico and east to the Rockies.[46] Intensive research in this field by the University of Washington Engineering Experiment Station resulted in a proposed "Coordinated Plan for Electric-Power-Public-Utilities for the Pacific Northwest." Study of Great Britain's successful experience with its national grid leads the Experiment Station to recommend a regional electric-power grid connected to all generating stations and all distribution networks in the Pacific Northwest. Every transmission line would be interconnected with the main grid to form an integral system. It is believed that " . . . generating stations in the Pacific Northwest, whether constructed and owned by public utilities, municipalities, states and/or the United States Government, can be operated in parallel on a permanent paying basis and likewise give highly satisfactory service for all electric-power market requirements."[47]

The United States Department of the Interior reports an investigation into the

(*Footnote 42 continued from page 367*)

Coast Iron Industry," Edwin T. Hodge, Consulting Geologist, War Dept., Corps of Engineers, U. S. Army, Office of the Division Engineer, North Pacific Div., Vol. 1.

[43] "Power in the Chemical Industries," H. K. Benson, *Proceedings*, Third Pacific Northwest Regional Planning Conference at Spokane, Washington, Feb., 1936, p. 86 f., National Resources Committee, District 11, Portland, Ore.

[44] U. S. National Recovery Administration, Work Materials No. 79, "Economic Problems of the Lumber and Timber Products Industry." (Industry Studies Section, March, 1936.)

U. S. Bureau of Corporations, "The Lumber Industry," Vols. 2 and 3 (Washington: Government Printing Office, 1911–4).

[45] The case for establishment of chemical industries is competently presented by Dr. Edwin T. Hodge, Professor of Economic Geology, Oregon State College and Consulting Geologist, U. S. Army, Corps of Engineers, in "Pacific Chemical and Metallurgical Industries," August, 1938, pp. 3-4.

The attitude of the private power group is expressed by Walter W. R. May, Director of Industrial Development, Portland General Electric Co., in "Bonneville Facts and Fallacies," *Public Service Magazine*, October, 1938, pp. 158–61.

[46] National Resources Committee, Regional Planning, Part 1, Pacific Northwest, Section 2, Part 2, p. 40 f. (Washington: Government Printing Office, 1936).

[47] Magnusson, Carl Edward, "Hydroelectric Power in Washington," Part IV, Regional Electric-Power Transmission, The Grid System, Engineering Exp. Station Series, *Bulletin* No. 90, Section X, pp. 44–51 (May, 1936). See also "Electric Power Markets in Washington," Part II. Residence Service, Markets and a Regional Power Transmission System, *Bulletin* No. 99, 1938.

feasibility of linking together the country's power resources. It is revealed that an interstate direct-current system would permit spacing out peak loads with the three-hour time differential between the Columbia River region and the east coast. Furthermore, low-water conditions in one hydro-electric system could be bolstered up by direct current from other watersheds. Prediction is made that Bonneville power could be transmitted to Chicago on an 80% load factor for 1½ mills per kilowatt-hour, making a wholesale price of about ⅓ cent per kilowatt-hour for such power delivered in Chicago.[48]

Conclusion

Bonneville Dam is now completed and power is available for distribution. Its legality as a single federal project may be in doubt, but less likely so if viewed as the first step in a vast development of Pacific Northwest resources. Although built as a New Deal public works project, the basic idea dates back to 1916. The Army Engineers, who built the dam, are charged with operation and maintenance of physical equipment, while a temporary Administrator manages distribution and sales of electric energy.

Twenty-three percent of the initial cost of the dam, including two generators, is allocated to electric power production by the Federal Power Commission. Upon installation of eight more generating units, power production will bear 57% of the total cost. This cost allocation permitted the Administrator to announce four wholesale rate schedules for prime and secondary power at the dam and on the transmission line on a kilowatt-year basis. Following the theory of "widest possible use" heavy industries at the dam-site are not encouraged over consumers on the transmission network. While this may retard the growth of electro-chemical industries in the region, there is reason to believe that all Bonneville's power will be utilized in other channels. This situation may prove conducive to regional economic stability despite the predominance of raw material industries and their dependence on foreign and eastern markets.

Engineers envisage Bonneville as an initial step in developing a regional super-power grid system which may ultimately be one part of a still greater national grid connecting the country's power resources.

Thus it appears that the solution of problems surrounding the distribution of Bonneville power may be but one phase of a larger program of regional and national electric power development. From this project may flow policies of administration, cost allocation, and rate structure that signalize the direction of federal effort in this field. Although federal experts can build dams to provide vast potentials of electric horsepower, the distribution of such energy raises social and economic problems not readily solved even by the technician.

Bonneville provides a striking illustration in the controversy between Pacific Northwest factions over "postage stamp" versus differential wholesale rates. Adoption of the former has given a definite cast to the whole administration of the project and promises to influence the future economic development of the region.

[48] "The Bonneville Project," Special Bulletin No. 16, United States Department of the Interior, August 4, 1938.

The Selection of a Business Site

By MALCOLM J. PROUDFOOT*

BUSINESS establishments are subject to severe competition, and are extremely susceptible to failure, particularly during their first year.[1] Many consider managerial ability the primary requisite of business success. But it may be too late for good management if a faulty business site has been selected.

Practical considerations enter into selecting a business site. Questions of capital, merchandising or technical skill, and the kind of business to be operated are not covered in this article. This discussion concerns the initiation of a business establishment and supplies an overview calculated to assist in selecting a business location and a specific site at that location.

When a particular kind of business has been selected for initiation, knowledge of the type of location where it is likely to prosper is necessary. These location types are eight in number, six urban and two rural. The city types are: (1) the central business district; (2) the outlying business center; (3) the principal business thoroughfare; (4) the neighborhood business street; (5) the isolated business cluster; and (6) the isolated business outlet. The rural types are: (1) the village business cluster; and (2) the isolated roadside business outlet. To assist in the final selection of a business site, it is important to consider: (1) the general character of each type of business location in relation to its customer tributary area; (2) the kinds of business found to prosper at each type of location; and (3) those conditions which should be considered in selecting a business site at each type of location.

To illustrate the general points covered in this article and to avoid confusing the argument with redundant examples, two figures are presented. A map is used to give a bird's-eye view of the location types to be described as these are commonly found in cities of varying size classes. A chart of kinds of business is given to provide ready reference for those wishing specific examples of the varying role assumed by each kind of business in its effort to obtain the best site.

Figure I is a schematic portrayal of retail structure showing cities of various population sizes in a rural setting, based on studies of the allocation of individual business census schedules for 1933 by blocks for the cities of Chicago, Philadelphia, Cleveland, Atlanta, and Des Moines, and on reconnaissance in the rural portions of several states. This figure illustrates also the interrelation of the various types of business areas.[2]

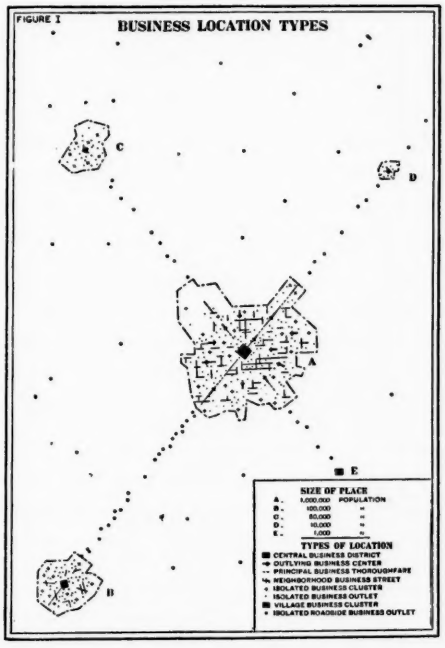
Figure II is a generalized presentation seeking to evaluate site by location types for a comprehensive number of kinds of business. The data for urban areas are based on reconnaissance and location analyses in the cities of New York, Chicago, Philadelphia, Washington, Baltimore, Milwaukee, Cincinnati, Nashville, and Knoxville. The rural evaluations are based on intensive field work in Connecticut, Massachusetts, New Hampshire, Tennessee, and Virginia, supple-

* Assistant Geographer, Bureau of the Census, Department of Commerce.

[1] Edmund D. McGarry, *Retail Trade Mortality in Buffalo, 1918–28: Groceries, Drugs, Hardware, and Shoes* (Buffalo: University of Buffalo Bureau of Business and Social Research, 1929).

[2] For a substantiating example of retail structure see a map of Philadelphia, a city of 1,950,000 inhabitants, in Malcolm J. Proudfoot, "City Retail Structure," 13 *Economic Geography* 424–8 at 425 (October, 1937).

mented by reconnaissance in Pennsylvania, Ohio, Illinois, Wisconsin, and Iowa. The results have been substantiated by other surveys and by the observations and experience of the writer and others engaged in study of this problem.[3]



The Central Business District

Each city has a functional hub, appropriately called the central business district.[4] In this district are concentrated the principal retail, wholesale, financial, service, amusement, and governmental activities. Here the business costs are high and competition is keen, but opportunities for profit are rich. Land is at a premium and demand for space forces building growth skyward, in large cities to 10 and 20 times ground dimensions.[5] Great crowds enter the central district in the mornings and depart at the close of the working day, followed by lesser numbers of shoppers and amusement seekers. All modes and routes of city transportation are focused to serve this striking movement of working and purchasing population. In many cities, motor coaches, suburban railroads, elevated trains, and subways furnish rapid transportation to and from distant suburbs; slower moving street-car service fills in the gaps left by these centrally oriented, spoke-like forms of transportation; whereas automobiles, though important, take a subordinate place because of restricted district parking space. The growth and importance of the central business district are in direct proportion to the growth and purchasing power of the city population which it serves.

Within the central business district are exceptional opportunities for virtually all kinds of business enterprise. The few exceptions are establishments which sell commodities or services hav-

[3] See Malcolm J. Proudfoot, *The Major Outlying Business Centers of Chicago* (Chicago: Private edition, distributed by the University of Chicago Libraries, 1938); *Location Structure of Retail Trade*, Domestic Commerce Series No. 80 and *Retail Store Problems*, Domestic Commerce Series No. 9 (Washington: Bureau of Foreign and Domestic Commerce, Department of Commerce, 1933 and 1926, respectively); William Applebaum, *The Secondary Commercial Centers of Cincinnati* (Cincinnati: University of Cincinnati, 1932); A. E. Parkins, "Profiles of the Retail Section of Nashville, Tennessee," 20 *Annals of the Association of American Geographers* 164–75 (1930); Edmund D. McGarry, *Retail Trade Areas in Buffalo*, Sup. Statistical Survey, University of Buffalo, Bureau of Business and Social Research, Vol. 7, No. 8A (April, 1932).

[4] Instances are not rare of cities having a dual development of such districts. This may occur during city growth from dual village or town nuclei, and through the migration of business enterprise as a result of building obsolescence or the requirements of specialization. Notable examples having dual districts are (or were) New York City, Buffalo and, although politically separated, within the urban areas of the various twin cities of the United States. However, for the most part, one district soon tends to dominate and sap the business functions of the other.

[5] Homer Hoyt, *One Hundred Years of Land Values in Chicago* (Chicago: University of Chicago Press, 1934), particularly pp. 327–44 inclusive.

ing a strictly rural appeal, or which require large amounts of horizontal space and deal in commodities high in bulk and low in value. Even though virtually all kinds of business locate at the center, certain kinds enjoy a higher income,[6] and dominate the most desirable and most expensive building space (Figure II). Those desiring to initiate business of these kinds, provided high operating costs and keen competition can be survived, stand to make large profits.

In addition to these dominant kinds, there are most numerous and highly variable kinds of business with proportionally lower incomes, occupying less desirable building space in upper-story, side-street, and middle-of-the-block sites. The nature of these establishments indicates the wide range and diversity of opportunity in the central business district. Here these, for the most part, prosper in small store or office sites where lower rentals make possible adequate profits from lower incomes.

If, after a consideration of all prospects, a decision is made to initiate a business in the central district of a certain city, it is desirable to consider those conditions fundamental to the selection of a suitable building site. In so doing one basic axiom dominates all other considerations. *The most suitable business site is one accessible to the greatest number of potential customers.*

The first site condition to be considered is that of pedestrian traffic. It is often said, "other things being equal, the heavier the pedestrian traffic, the greater the volume of business." Unfortunately, other things are never equal! Mere quantity must be examined for quality in terms of a specific kind of store.[7] Evaluating quality (and each potential store manager should decide what is important) is facilitated by sorting pedestrian traffic into classes, such as: men, women, adolescents, and children; superior, fair, and poor, judged by clothing; number per hour during the morning, afternoon, and evening, and by days of the week or by seasons; those evidencing purchases by parcels; and variations between corner and mid-block locations. Certain influences likewise must be evaluated, such as the release of crowds by theaters, amusement parks, schools, exhibit halls, clubs, and other crowd-gathering activities which swell pedestrian traffic but tend to place people in a non-purchasing frame of mind. Furthermore, certain conditions are to be avoided if additional pedestrians are to be stimulated to enter a business site. These are: approaches with an incline, or stores with a step up to the door; office space above the second story not furnished with elevators; cramped allotments of window display space; sunny exposures in southern cities; poorly drained or narrow sidewalks; adjoining nuisance enterprises; and all other conditions which inconvenience or displease the potential customer.

A second favorable site condition is that of proximity (less than a five-minute walking distance) to mass transportation terminals. The common tendency of residential areas to decentralize toward municipal outskirts and extreme traffic to congest in the central district detracts from the utility of the automobile and renders mass conveyance of paramount importance as the customer-

[6] Malcolm J. Proudfoot, "Intra-City Business Census Statistics for Philadelphia, Pennsylvania," Census of Business: 1935, Bureau of the Census, Department of Commerce (Washington, 1937). Particular note should be taken of Table 3, which among other relevant data shows the average annual sales per store to be $90,200 in the central business district in contrast to $22,300 for the city as a whole.

[7] W. H. Meserole, "The Qualitative Character of Pedestrian Traffic," 2 *American Marketing Journal* 157–62 (July, 1935).

transporting agent.[8] Proximity to railroad, elevated, subway, and ferry terminals is, for the most part, highly desirable for business. However, the value of individual terminals depends somewhat on the quality of the residential areas served. Finally, although proximity to a major street-car or motor-coach transfer corner does enhance the value of a specific business site, numerous transfer corners and block-to-block stopping schedules render such points of markedly less business value than the terminals of other modes of mass transportation. Ideally, a position between two terminals is most desirable. However, any business site favored by heavy pedestrian traffic, resulting from commuters, is likely to enjoy a high income.

A third favorable site condition is that of adjacence to other establishments engaged in the same kind of business. This condition is desirable since a shopper, not satisfied in one store, is able conveniently to satisfy his wants in an adjacent store. Furthermore, duplication of competitive offerings makes for beneficial specialization among individual business units. The group as a whole offers a higher class of service, or makes available a greater variety of commodities at lower prices. More potential customers are attracted, a higher proportion of these make purchases, and a greater number of satisfied customers makes for an accumulation of repeat business.

A final, general site condition favorable to business is that of proximity to a bank or large retail establishment, such as a department store. Banks draw large crowds of people who are either bringing money for deposit or withdrawing funds for general use. Such people may be considered to have good credit ratings, and make excellent potential customers. Likewise, near-by banks serve the flow of local credit to the individual business concerns. Department stores and other large retail establishments spend large sums for newspaper, outdoor, car-card, and radio advertising. This, and other forms of customer stimulation, attract large crowds of potential buyers to these stores, and thereby directly benefit adjacent or near-by business establishments and the central business district in general. People stimulated in these ways are likely to be purchase-minded and susceptible to the attraction of commodity and service offerings made by any visible business establishment.

The Outlying Business Center

In the outlying business center, found in numbers from 5 to 30 or more depending on the size of the principal city, business has its second best opportunity (Figure I). In the principal cities the combined business volume of all outlying centers ranges from 1/3 to approximately that of the central business district. The larger the city, the greater the parallel decentralization of population and business enterprise, and the greater the share of business taken by the centers.[9]

The outlying center is a less concentrated satellite miniature of the central business district. Here, on a smaller scale, are retail, financial, service, and amusement activities occupying multistoried building space. Four-, six-, and

[8] Michigan State Highway Department, *Street Traffic City of Detroit, 1936–1937* (Lansing: Franklin DeKleine Co., 1937), pp. 126–45.

[9] In the case of Philadelphia, the combined volume of sales accredited to the outlying business centers equalled 19.2%, whereas that of the central business district equalled 37.4% of the total for the City. (Proudfoot, "Intra-City Business Census Statistics for Philadelphia, Pennsylvania," *op. cit.*, Tables 2, 3 and 4.) On a comparable basis as shown by analyses of the 1933 Business Census schedules, Chicago had a total of 48 centers, Philadelphia 32, and Cleveland 18.

FIGURE II. A GENERALIZED EVALUATION OF SITE BY LOCATION FOR KINDS OF BUSINESS*

The grade of site, proportional to front-foot rentals, which each kind of business enterprise may afford to occupy at each type of location, shown by letters:

A.....High
B.....Medium
C.....Low
X.....Site subordinate to location

Kind of Business Enterprise	Urban Business Locations						Rural Business Locations	
	Central District	Outlying Center	Principal Thoroughfare	Neighborhood Street	Isolated Cluster	Isolated Outlet	Village Cluster	Isolated Roadside Outlet
RETAIL								
1. Accessory, tire, and battery dealers	C	B	A	C		X	X	X
2. Apparel accessory stores	B	A		B			X	
3. Army and navy goods stores	C							
4. Bakeries and caterers	C	B		A	X	X	X	
5. Beer and liquor stores	C	B	C	B				
6. Bicycle shops	C		C			X		
7. Book stores	B	C		C				
8. Cafeterias	B	B		B				
9. Camera and photographic supply stores	B	B						
10. Candy and confectionery stores	B	B		B				
11. Cigar stores	A	A		B				
12. Coffee, tea, and spice stores	B	B						
13. Combination grocery and meat stores		C		A	X	X	X	
14. Custom tailors	B	B						
15. Dairy product stores		C	C	B	X	X		
16. Delicatessen stores	C	C	C	B	X	X		
17. Department stores	A	A	A			X		
18. Drug stores	A	A	B	A	X	X	X	
19. Dry goods stores	C	B		B				
20. Egg and poultry dealers		C	B	B				
21. Electrical supply stores	C	B		B				
22. Family clothing stores	C	B				X	X	
23. Fancy grocery stores	B	A		A				
24. Farm and garden supply stores				C		X		
25. Farmers produce markets			A			X		X
26. Filling stations		C	A	B		X	X	X
27. Floor covering and drapery stores	C	B						
28. Florist shops	B	C		B				
29. Fountain lunches	C	B		B				
30. Fruit and vegetable stores		C	B	B	X	X		
31. Fuel and ice dealers				C		X	X	
32. Furniture stores	B	B	B					
33. Furriers and fur shops	B	B						
34. Garages	C	C		C		X		X
35. General merchandise stores	B	A						
36. General stores								X
37. Gift, novelty and souvenir shops	B	B						
38. Grocery marts	B	B	A					
39. Grocery stores		C		A	X	X	X	
40. Hardware stores	C	C		B			X	
41. Hardware and farm implement stores							X	
42. Hay, grain, feed stores				C		X	X	
43. Heating and plumbing equipment dealers	C		B			X		
44. Household appliance stores	B	A		B				
45. Jewelry stores	A	A		B			X	
46. Kitchenware stores	C	B		B				
47. Lunch counters	C	C	C	C			X	
48. Lunch rooms	C	B	C	B	X		X	
49. Luggage and leather goods stores	B	B		C				
50. Meat markets		C		A	X		X	
51. Men's clothing stores	A	A		C				
52. Milk depots			A			X		
53. Millinery stores	B	A		C				
54. Music stores	B	B						
55. New car dealers		C	A			X	X	
56. Newspaper and magazine dealers	C	C		C			X	
57. Nut shops	C	B						
58. Office and store equipment dealers	C					X		
59. Paint, glass and wall paper stores	C	C						
60. Pawn shops	C	C						
61. Picture and picture framing stores	C	C						
62. Radio dealers	C	B		C				
63. Second-hand stores	C	C		C				
64. Shoe stores	B	A		C				
65. Tableware stores	C	B						
66. Used car dealers		C	A			X	X	X
67. Variety, 5-10-$1 stores	A	A		A			X	
68. Women's clothing stores	A	A		C				
WHOLESALE								
1. Automotive	C		A			X		
2. Amusement and sporting goods	C							
3. Beer, wines and liquors	C					X		
4. Chemicals and paints	C					X		
5. Clothing and furnishings	C					X		
6. Coal and coke						X		
7. Dry goods and specialties	C							
8. Drugs and drug specialties	C					X		
9. Electrical goods	C							
10. Farm products—consumer goods	C							
11. Farm products—raw materials	C					X		
12. Farm supplies	C							

Kind of Business Enterprise	Urban Business Locations						Rural Business Locations	
	Central District	Outlying Center	Principal Thoroughfare	Neighborhood Street	Isolated Cluster	Isolated Outlet	Village Cluster	Isolated Roadside Outlet
13. Furniture and house furnishings	C							
14. General merchandise	C					X		
15. Groceries (full line)	C							
16. Grocery specialties	C					X		
17. Hardware	C							
18. Jewelry and optical goods	C					X		
19. Lumber and construction materials						X		
20. Machinery, equipment and supplies	C					X		
21. Metal and metal work						X		
22. Paper and its products	C					X		
23. Plumbing and heating goods	C					X		
24. Tobacco and its products	C					X		
25. Waste materials						X		
RECREATIONAL								
1. Bowling and billiard halls	C	B	A			X		X
2. Dance halls	C	C	B			X		
3. Men's, women's and family clubs	C	C				X	X	
4. Motion picture theaters	B	B	B	B		X	X	
5. Nite clubs	C	C	B			X		X
6. Operas	B							
7. Ping-pong and table game parlors	C	C		C				
8. Shooting galleries	C	C						
9. Skating rinks	C	C	B			X		
10. Theaters	B							
FINANCIAL								
1. Banks	B	A		B			X	
2. Building and loan associations	C	B						
3. Installment finance companies	C							
4. Insurance offices	C	C						
5. Personal finance companies	C	C						
6. Security brokers and dealers	B	B						
PROFESSIONAL AND SEMI-PROFESSIONAL SERVICE								
1. Architects	C	C						
2. Building contractors	C	C				X		
3. Chiropractors	C	C		C		X	X	
4. Chriropodists	C	C		C		X		
5. Dentists	C	C		C		X	X	
6. Doctors	C	C		C		X	X	
7. Lawyers	C	C				X	X	
8. Osteopaths	C	C		C		X		
9. Public accountants	C	C						
10. Vocational schools	C	C				X		
11. "X"-Ray laboratories	C	C				X		
RESIDENTIAL SERVICE								
1. Apartment hotels	C	C				X		
2. Hotels	B	C	A			X		X
3. Rooming houses	C					X	X	X
4. Tourists hotels	C		A			X	X	X
TECHNICAL SERVICE								
1. Advertising agencies	C	C						
2. Automobile rental service	C	C						
3. Automobile repair shops		C	B	C		X	X	X
4. Barbers	C	C		B	X	X	X	
5. Beauticians	C	C		B	X	X	X	
6. Blacksmith shops						X	X	
7. Cleaners	C	C		B		X		
8. Dancing academies	C	C				X		
9. Detective agencies	C	C						
10. Duplicating service	C	C				X		
11. Electrical applicance repair shops	C					X		
12. Employment agencies	C	C						
13. Fur remodelling	C	C		C				
14. Laundries	C	C		C		X		
15. Massage and bath service	C	C						
16. Messenger service	C							
17. Parking garages	C							
18. Parking stations	C	C						
19. Photographers	C	C		B				
20. Plumbers				C		X	X	
21. Printers	C	C		C		X	X	
22. Public stenographers	C							
23. Realtors	C	C		C			X	
24. Shoe and hat repair shops	C	C		B	X		X	
25. Sign painters	C	C		C		X		
26. Suit rentals	C	C						
27. Tailors	C	C		B	X			
28. Telegraph service	B	B		B		X	X	
29. Ticket agencies	C	B						
30. Typewriter repair shops	C	C						
31. Upholstery and furniture repair shops				C		X		
32. Watch and clock repair shops	C	C		C			X	

* This generalized evaluation attempts to portray the average condition revealed by urban and rural reconnaissance during the past five years and as determined by foot-frontage analyses of double-profile maps made of over 50 linear miles of street frontage in Chicago, Illinois. See Malcolm J. Proudfoot, *The Major Outlying Business Centers of Chicago, op. cit.* Because of the caprice of human choice, the localization of business enterprise, though following general patterns, is by individual units a most unpredictable, imprescribable phenomenon.

eight-story buildings equipped with elevators are clustered at the principal street-car and motor-coach transfer corners; and for several blocks in two, four, or six directions from these corners, business continues within buildings of decreased height and reduced rentals.[10]

These centers, with few exceptions, are found in the broad zone midway between the central business district and the residential fringes of each city.[11] This position shows the tendency of business enterprise to decentralize and profit by the commodity and service needs of the decentralized residential population, and at the same time avoid the ruinous competition of close proximity to the central business district. Thus, depending on the size of the city and that of each center, conditioned by available transportation, customers are drawn from a wide tributary area; a wedge-shaped area with its point midway between the center and the central business district, and its head widening indefinitely toward the suburbs.[12]

The outlying business center, although at a concentration point of city transportation,[13] differs markedly from the central business district in the general absence of rapid mass-transportation facilities and terminals. In fact, the proximity of railroad, elevated, subway, and express motor-coach transportation, invariably oriented to serve the central district, may be a severe detriment to the outlying business center. The center is favored when well served by street cars and motor coaches, and with wide streets suitable for dense automobile traffic. These low-cost and relatively slow-moving forms of mass transportation are a convenience to the near-by customers of the center, but of limited convenience between the residential fringes and the central district. Automobiles, finding ample near-by parking space, are an advantage to the center, whereas traffic congestion and the absence of parking facilities tend to exclude them from the central district. Finally, many buyers walk to the center from their residences and for this small area the center is the dominant market. Therefore, the optimum conditions for a center are: the presence of an important mass street-transportation transfer intersection; well paved feeder streets suitable for dense automobile traffic; and the proximity of densely settled residential areas peopled by high-income groups.

As indicated, the business character of the center reflects, in miniature, the conditions found in the central business district. To be sure, certain individual kinds of business enterprise found in the central district are commonly not found at the center, whereas several new kinds assume a prominent place. Again, those enterprises enjoying the highest income dominate the choicest street level or upper-story corner or adjacent building sites; whereas the remainder occupy middle-of-the-block space removed a block or more from the principal transfer corner (Figure II).[14]

When a specific outlying business center has been chosen, giving consideration to its size, tributary area, and transportational accessibility as compared to other centers, care should be used in the

[10] Proudfoot, *The Major Outlying Business Centers of Chicago, op. cit.* Note that on the basis of the character of street-frontage occupancy a lower limit was set for major centers and that these totaled 20, whereas based on volume of sales 48 centers were distinguished. This does not represent a conflict but different definitions. (The first half of the material here cited is likewise covered in Malcolm J. Proudfoot, "The Outlying Business Centers of Chicago," 13 *Journal of Land & Public Utility Economics* 57–70 (February, 1937).)

[11] *Ibid.*, p. 51.

[12] *Ibid.*, p. 58.

[13] *Ibid.*, pp. 52 and 55.

[14] *Ibid.*, p. 56.

selection of a suitable site. For the outlying center, the problem is infinitely less complex than for the central district. The center is small, consisting, for the most part, of less than 10 blocks of business frontage. The choice of a business site is generally to be made from less than a dozen present, or prospective, vacancies. Here again the site selected should be the one accessible to the greatest number of potential customers—people with cash or credit and desiring commodities and services.

Favorable site conditions at the center are essentially similar to those of the central district. Here again pedestrian traffic should be measured as to quality as well as quantity; and all impediments to the accessibility of site should be avoided. As proximity to transportation terminals is most desirable for the central district, so for the center, a comparable role is held by the street-car and motor-coach transfer corners. The best sites are, almost without exception, the four or six principal transfer corners; and, secondarily, building space in the street frontage of each corner block. Of major importance, for the center, is the value of a site adjacent to a bank, department store, or other large retail enterprise exerting a strong drawing force on purchase-minded people. Finally, as explained for the central district, it is most desirable to locate in a cluster of similar business enterprises.

The Principal Business Thoroughfare

Principal business thoroughfares are found in most large cities in numbers roughly proportional to city population (Figure I). The thoroughfare, in most instances, is a non-residential segment of a vehicular and mass-transportation artery affording direct connection between outlying residential areas and the central business district. The attractive force of the central district accounts for the dense traffic on the thoroughfare, and not its large, widely spaced business establishments (Figure II). This dense traffic, however, has made possible the development of this type of business location. New and used automobile and accessory dealers, filling stations, food marts and large grocery stores, farmers' markets, department stores, motion picture theaters, and tourist hotels are among the enterprises well adapted to the business thoroughfare. These establishments profit handsomely by offering the convenience of ample curb-side parking space to customers from the passing vehicular traffic; and, in turn, low rentals for large vacant lots and building quarters make possible large-scale enterprise with low overhead cost.

After deciding upon a certain business thoroughfare, based on a knowledge of its street-traffic character and density, a specific business site may be selected from among the adequate vacant building spaces. Of paramount importance to large-scale operation is the choice of a site: (1) adjacent to a vacant lot suitable for parking purposes; and (2) so situated that, from one or more directions, the concern's outdoor signs may be seen by passing motorists. Business along the thoroughfare stands to profit in direct proportion to its advertising appeal. To the motorist, the ample parking space of the business establishment along the thoroughfare makes it highly accessible to his movements, and he, if properly stimulated, readily becomes a buyer.

The Neighborhood Business Street

The neighborhood business street, as its name implies, draws customers from easy walking distances within individual neighborhoods. These streets form essentially rectangular patterns within cities (Figure I). They are rendered

residentially undesirable by the passing of heavy, mass, and vehicular traffic. They are either isolated from other types of business location, or are extensions of outlying business centers. Finally, they evidence a lack of business concentration by a predominance of apartments or flats in their upper stories.

The kinds of business likely to prosper on these streets are those with a neighborhood appeal. Foremost among these are the grocery store, the meat market, the fruit and vegetable store, the small movie house, the cleaning and pressing establishment, the shoe repair shop, the doctors' and dentists' offices, and the garage. Large establishments, advertising extensively and dependent on customers drawn from a wide area, are out of place in the neighborhood business street (Figure II).

The selection of a specific site within a neighborhood business street location is of subordinate importance to the care which should be exercised in selecting the location. Since each kind of business within any such location is almost wholly dependent upon customers from the immediate neighborhood, it is of primary importance to analyze the character of each neighborhood. It is expedient to determine, by inspection or from statistical sources, whether or not the neighborhood is: densely populated; populated by a desirable nationality or income group; or served by other neighborhood business streets.

When a desirable neighborhood business street has been selected, the question of a specific business site should be considered in the light of accessibility to the greatest number of potential customers. All possible obstructions should be avoided. Here, as in the case of the outlying business center, a mass-transportation transfer corner is most desirable. Then, in descending order of desirability come middle-of-the-block sites adjacent to such corners, corner sites which are not at transfer points, and middle-of-the-block sites removed from such corners. Finally, as a supplement to the relative advantage of each of these sites is the desirability of locating in a cluster of competitive outlets.

The Isolated Business Cluster

The isolated business cluster, for the most part, is made up of two or more establishments which complement each other; for example, a grocery store, a drug store, a meat market, a shoe repair shop, and possibly a cleaning and pressing establishment. Such establishments, without affording each other much competition, supply the immediate commodity wants of small residential areas, restricted in extent to a short walking distance. It is a common occurrence for these store clusters to develop in sparsely populated city outskirts or within densely settled areas where an early start or a zoning ordinance made available, to business use, a scant block or a city lot (Figures I and II).

For this type of location the problem is primarily that of selecting a suitable isolated cluster, whereas selecting the best available building site is a secondary consideration. Here the businessman meets the necessity for a most critical analysis of restricted neighborhood areas. The analysis should seek to answer two primary questions: (1) Are the number of families living within an easy walking distance of the projected establishment sufficient in number and of a high enough economic level to provide an adequate business income? (2) What is the likelihood of ruinous competition from another cluster of business establishments already in operation, or the potential threat of another arising from available building or ground space?

Ordinarily, the most profitable location of this type is one situated in a high-grade residential area; or one adjacent to a university or school; and in each case favored by a zoning ordinance which will keep other establishments at a non-competitive distance. Such a location along an important street-car, motor-coach, elevated, or other mass-transportation route is likewise desirable, provided it is situated to profit by commuters making purchases en route to their homes. Finally, it is desirable to locate in a neighborhood which is increasing in population. An establishment in such a location may gain the outstanding advantage of local confidence resulting from an early start, and have the good fortune to grow with the neighborhood.

The Isolated Business Outlet

Within any city are found numerous instances of the isolated business establishment (Figure I). The usual run of these consist of the isolated, strictly neighborhood grocery store, drug store, meat market, and other outlets commonly found in the isolated business cluster or neighborhood business street (Figure II). These stores draw customers from within their immediate neighborhood, and their business is on a highly personal basis. These stores fill the immediate commodity needs of near-by family groups; and they sell standard articles or dispense services duplicated throughout the city both in kind and quality. Therefore, in locating such a store it is desirable to obtain isolated sites relatively free from competition. These should be sought along residential streets, in basement, middle-of-the-block, or corner sites where there is a suitable vacancy and wherever it appears that a group of families are not only being inconveniently supplied but where it appears that this group in turn can support such a store.

The isolated business outlet is not a clear-cut type about which one may generalize. It is comprised of highly miscellaneous kinds of business with sharply contrasting site requirements. On the one extreme is the enterprise represented by the small corner grocery, drug, or similar store supplied by truck and supported by pedestrian customers. Then there are the intermediate enterprises represented by the filling station, the food specialty store with delivery service, the coal and lumber yard, and other establishments drawing customers from intercommunity areas. Finally, at the opposite extreme, is the hybrid business, such as the retail store of the mail order house, the department store, the milk distributor with house-to-house delivery to thousands of customers, or the mail order house with state- or nation-wide clientele. Attempting to prescribe the most suitable conditions, as to site or location, for business of these highly heterogeneous kinds would serve no useful purpose. Selecting an isolated location within a city, for the most part, is an individual matter depending upon the specific nature of the enterprise to be initiated. An analysis of neighborhood population may be paramount. It may be the convenience of a freight-siding or the saving gained from low-rent storage facilities. It may be a central location within a specified service area, or the site may be outstanding because of favorable freight, express, and parcel post connections. Whether a single or combined condition dominates depends upon the business to be established at any given isolated location or site.

The Village Business Cluster

The village or small-town business cluster represents the central business

district in embryonic form (Figure I). Each compact village population group is conveniently served by its business cluster which does not decentralize until population growth creates a decentralized demand. In addition to serving the village, the cluster may serve several hundred near-by farm families with a major portion of their staples. Since the isolated position of many villages makes their business outlets the chief source of supply for a substantial proportion of their tributary population, each store is likely to carry a rather full line of essential merchandise and the business establishments as a group provide a wide range of farm, household, and personal commodity and service necessities.

For the most part, the village business cluster represents a complementary and only a mildly competitive group of enterprises. These consist of several grocery stores, a meat market, a dry goods store, a general store, a hardware store, a restaurant or lunch room, a tourist hotel, a garage, and several filling stations. In addition, professional service may be offered by a dentist, several doctors and, depending on the nature of the village, by several lawyers (Figure II).

Here again the question of selecting a specific site is of minor significance compared to analyzing the situation of the general location. A number of relevant questions should be answered before it may be considered advisable to locate a new business enterprise in a given village. Some of the more general of these are: (1) estimate the likelihood of success for the business to be initiated by balancing the economic level, growth or decline, of the village population and that of the tributary farm population against the existence or absence of local competition; (2) make a study of road and highway connections to ascertain whether or not relocation or new construction, for example a "cut-off," is imminent which may divert customers from the village business cluster; (3) investigate the travelling time required from the village in question to and from competitive villages, towns, and cities; (4) make vehicular traffic counts, and, if possible, discover what proportion of the traffic stops within the village business cluster; and (5) analyze the source of potential customers arriving by automobile by recording license numbers within the village and obtaining owner addresses from the official state lists. Based on individual judgment, when these or other tests prove favorable, it may be advisable to initiate a business enterprise at a site within the village selected.

The Isolated Roadside Business Outlet

Roadside business outlets in isolated locations are familiar objects in the American rural landscape (Figure I). Most common and time-honored among these is the general store, a descendant of the frontier trading post. The familiar statement—"We sell everything from little wooden toothpicks to heavy lumber wagons"—aptly describes this type of business. Variety is great, although selection within commodity groups is most limited. Added to the general store are a host of miscellaneous business enterprises commonly located on roadside sites isolated from other forms of business. Some of the more common kinds are filling stations, tourist cabin and filling station combinations, restaurants or sandwich shanties, amusement parks or swimming pools, night clubs, general repair garages, and farm produce markets (Figure II).

The situation with respect to locating an isolated roadside outlet, for the most part, is not complex. For the general store, a crossroad location is most de-

sirable, but locations on principal highways are to be avoided. The general store is likely to be most favored by a location free from near-by competition and with convenient access over all-weather roads to a farm population adequate to provide for its maintenance and growth. For this type of store the two-fold danger exists of being too understocked to compete with the peddler truck and of being so situated on a paved highway that village or city competition is too acute for continued existence.

The other kinds of isolated roadside business outlets are strictly a highway phenomenon catering to, and for the most part, dependent on the patronage of the city motorist. For them the most favorable site is one with ample parking space, excellent visibility, and a location at the intersection of two or more highways carrying heavy vehicular traffic. Although ample space renders the parking problem virtually non-existent, it is desirable to improve the ground set aside for this use. If a site at a highway intersection is not available, then almost any site with excellent visibility should prove suitable. Good visibility is highly essential, and the highway business enterprise hidden from view on a curve is at a distinct disadvantage compared with one at the crest of a slight rise or on the flat portion of a valley. Such sites profit, for motorists have time enough to reach a decision and to stop, even when travelling at high speeds.

Conclusion

It would be misleading to close without indicating the manner in which the character of these various types of business location merge into each other. The character of each type depends in large measure on the size of the city or village within which it is located, and each type grows or declines with the expansion or contraction of the population it serves. The central district of a medium sized city may be similar in most respects to an outlying business center situated in a large city. The intersection of two mass-transportation routes may mark the transition in growth from a neighborhood business street or a principal business thoroughfare to an outlying business center. Isolated business outlets may increase along a traffic artery and mark its transition to a principal business thoroughfare, or such outlets may become isolated business clusters along a car line. The isolated business cluster may expand to become a neighborhood business street. The village business cluster may expand with the village to become the central business district of a city, or population decline may produce the opposite result for a central business district. Finally, the isolated roadside business outlet may form the nucleus of a village business cluster. Thus the value of a particular kind of business at a given site within a given business location remains at the mercy of population change. Decisions reached may fit for a given time, but they are subject to an indefinite future. Each business man must be ready to relocate as basic conditions change. He should not, as so many do, become captivated by the inertia of a previous decision.

Forfeiture of Real Property Rights through Tax Delinquency

By H. K. ALLEN*

PROBLEMS pertaining to the enforcement of real estate tax liens now command much more attention than formerly because of the existing heavy volume of chronic delinquency. "Tax delinquency of rural real estate," according to a statement made by Donald Jackson in 1936, "has presented an increasingly serious problem since 1928, though, in fact, a gradual increase in the extent of the problem had been occurring before that year."[1] More recent data indicate a downward trend in the total volume of delinquency, but chronic delinquency, particularly in certain inferior land areas, is still heavy.

That property rights are gradually transferred from the private owner who permits his land to go delinquent to another individual, or to the government, is a matter of rather general knowledge. If taxes are not paid on or before a certain specified date, the property itself, or a tax certificate, is usually offered for sale. The purchaser who buys the property or the certificate obviously acquires thereby a right in the property. In case no bids are received at the tax sale, the property in most states reverts to the government. In either event the owner is usually granted the privilege of redemption for a certain length of time after the sale, during which period the property may be redeemed and the title restored.

While the general outlines of this procedure are fairly well understood, the fundamental theory which underlies the forfeiture of property rights through tax delinquency is not so familiar. Serious defects in the tax-sale machinery, tax titles, and the administration of tax-reverted lands are attributable, in part at least, to the lack of a proper appreciation of the philosophy upon which forfeiture is based. A better comprehension of the theory back of the relinquishment of property rights for non-payment of taxes would thus greatly facilitate reform of the steps involved in the process.

Since the sale of property for non-payment of taxes involves fundamental property rights, the real nature of these rights should first be considered. Property has often been described by the courts as an aggregate of rights. Whatever may be the justification of private property as a natural right, its basis in the modern State is essentially legal. This is true whether we are regarding property in the narrow sense which includes only rights in tangible things or in the broader sense which embraces also oral and written contracts.[2]

Nature of Property Rights

The institution of private property is authorized by positive grants in the state constitutions, and by implied sanctions in the Federal Constitution. Property, it is noted then, is a creation of the law, and may be modified or abolished by law. Slavery, for example, was an important form of property in this country before the Civil War, but was abolished by the Thirteenth Amendment.

Property rights have traditionally been subject to certain restrictions. The interest of the public in private possessions was recognized in the first codifi-

* Department of Economics, University of Illinois.

[1] "Tax Delinquency of Rural Real Estate," 3 *Law and Contemporary Problems* 347 (1936).

[2] For a discussion of the development of the broad concept of property, see John R. Commons, *Legal Foundations of Capitalism* (New York: Macmillan Co., 1924).

cation of the Roman law as recorded on the Twelve Tables.[3] These laws provided setback lines for city buildings and prohibited denial of access to water from private wells.

Limitations on Property Rights

In accordance with the precedent of earlier societies, modern constitutional governments reserve certain powers or restrictions over property. These powers fall into three main categories—namely, eminent domain, regulation, and taxation. Through exercise of the power of eminent domain property may be taken from the owner when it is needed for a public purpose. Uses of property may be controlled and restricted by regulation. This includes specifically authorized regulatory powers and general regulation based on the police power. Zoning, for instance, is a type of regulation based on the police power. Finally, property is subject to taxation unless specifically exempted. The courts have declared in innumerable cases that the power to tax is an inherent attribute of sovereignty. For this reason it has been held that legislatures have plenary powers of taxation regardless of specific constitutional authority.

While property is subject to eminent domain, regulation, and taxation, limitations in turn have been placed upon the exercise of these powers. Government, in other words, is not free to exercise its powers without restrictions. Just compensation must be paid for property acquired through eminent domain. Regulation must be for a lawful purpose and in the interest of public welfare. Taxes must be for a public purpose and cannot be arbitrary or discriminatory. Property is afforded further protection in the clauses of state and federal constitutions concerning due process of law, equal protection of the laws, equal privileges and immunities, impairment of the obligation of contracts, and uniformity of taxes. By means of this system in which property rights are granted on the one hand, powers over property reserved to government on the other hand, and limitations attached to the exercise of the latter over the former, an equilibrium is established between government and property. The function of the courts, through the process of judicial review, is to preserve this balance. Without the protection afforded to property against an unreasonable exercise of governmental powers, these rights would constitute more of a fiction than a reality.

Responsibility for Payment of Taxes

In view of the relationship between private property and government, it is obvious that the property owner is liable for the payment of lawful taxes. Property, unless specifically exempted, is owned subject to the payment of taxes. Government could not survive and perform its functions if this were not true. Under the general property tax, owners who believe that their property has been unfairly assessed may appeal to boards of review for relief. If the assessment is not satisfactorily adjusted by the board of review or if the tax levy is illegal for any other reason, the taxpayer has the privilege of contesting his tax bill in the regular courts. If the taxes are paid without protest, however, the taxpayer cannot subsequently contest the legality of the levy. The fact that property may bear a discriminatory burden of taxes is not in itself sufficient grounds to invalidate a particular tax levy. Nor does the circumstance that its rates are confiscatory destroy the validity of a tax which is otherwise valid. Maximum tax rates, specific or general or both, are, of course, prescribed in most states as a

[3] 12 *Encyclopedia of the Social Sciences* 534 (Re-issue of 1937).

protection against confiscatory rates. In a few states, such as Indiana, a group of taxpayers may appeal to a state tax board against excessive levies.

Enforcement of Property Tax Liens

A common feature of tax-collection laws in every state is that taxes levied upon property are made a lien against the property, and the collection of taxes is authorized by warrant.[4] Not only is real property itself liable for taxes levied against it but, with the exception of six or seven states, personal property may also be distrained and sold for payment of real estate taxes. Unpaid personal taxes, on the other hand, commonly become a lien upon real estate. In addition to recourse to the real and personal property of the taxpayer, provision is made for personal liability for the payment of property taxes in approximately one-fourth of the states. In the event that the property cannot be sold for enough to pay the taxes, it would seem reasonable that the taxpayer should be relieved of further liability. As a matter of fact, it is doubtful whether provisions for enforcement of personal liability have an effective legal remedy.

Provision is made in every state for enforcement of the tax lien when taxes are not paid within a specified period. In a few states, such as Ohio, no provision is made for a redemption period after the tax sale. The length of time between the delinquent date and the sale date in those states which provide for sale to private buyers during the redemption period varies from 20 days in Kentucky to 18 months in Virginia. The laws of the different states pertaining to enforcement of tax liens vary greatly, but they may be classified into four general groups. The most common type of tax sale procedure is that in which certificates are sold and redemption is permitted during a certain period, after which a deed is issued. In order not to disturb property rights unduly, certain states, in which this first system is found, provide that a small portion of the tract shall be offered for sale before the entire tract is sold. This plan has not proved very satisfactory because tax buyers are not interested in purchasing a lien on a small tract of property, the remainder of which is to be retained by the original owner. It is usually necessary, therefore, to offer the entire delinquent tract for sale.

The laws of California, Idaho, and Utah illustrate a second type of procedure, which provides for automatic purchase of all delinquent tax liens by the state or county. The state automatically purchases the delinquent tax liens in California and Idaho, and the county is the purchaser in Utah. The liens automatically acquired by the state or county are subsequently liquidated.

The practice in Ohio is illustrative of a third type of procedure which obtains in a few states. No provision is made for sale of the certificates, but the tax lien is foreclosed by legal process aud the property is sold three years and eight months after delinquency. In Ohio, property may be redeemed before the sale but not thereafter.

Included in a fourth group are a limited number of states in which tax certificates are sold and a fixed period of redemption allowed which is followed by a proceeding to enforce the lien by foreclosure in a manner similar to a mortgage foreclosure. Various modifications of this plan are found in North Carolina, Nevada, New Jersey, and Nebraska.

Since the sale of property for nonpayment of taxes involves fundamental property rights, it would seem desirable that the order for the sale should issue

[4] The legal provisions discussed in this article are based primarily on M. H. Hunter, *Legal Provisions Affecting Real Estate Tax Delinquency, Tax Sales, and Redemption* (University of Illinois: Bureau of Business Research, 1933).

from a court of record. In approximately two-thirds of the states, nevertheless, the sale is purely an administrative act, authorized by statute.

The statutes of the several states usually require adequate notice of the time and place of the sale. Proper notice is one of the requirements of due process of law in actions affecting property rights. It is often difficult in practice, however, to give proper notice because legal descriptions and ownership records are often inaccurate and incomplete.

Except in a few states, such as Ohio, where the sale is not held until a long time after taxes become delinquent and redemption is not permitted after the sale, sales of real estate for taxes are made subject to redemption. The theory of the redemption privilege is that the owner should be given a reasonable opportunity to redeem property sold for delinquent taxes. A majority of the states provide for either a two-year or a three-year redemption period. If the property is not redeemed within the prescribed period, the purchaser at the tax sale receives a tax deed.

Complications sometimes arise when the purchaser at the tax sale does not pay subsequent taxes as they become due during the redemption period. Usually the purchaser at the tax sale is required to protect the property from subsequent sale or forfeiture. In Illinois, for example, the law provides that, if any purchaser of real estate sold for taxes suffers the property to be forfeited to the state or again sold for taxes before expiration of the last day of the second annual sale thereafter, the subsequent purchaser shall not be entitled to a deed for the property until the expiration of a like term from the date of the second sale.[5] In other words, failure of the purchaser of a tax certificate to pay subsequent taxes as such taxes come due serves automatically to extend the redemption period.

Let us assume that A purchases a tax certificate in 1935. By purchase of this certificate A obviously acquires an interest in the property, although the original owner still has title and possession. Upon payment of taxes in 1936 and 1937, A becomes eligible to receive a tax deed, provided the original owner has not redeemed the property prior to expiration of the redemption period in 1937. Now if A should fail to protect his investment by payment of taxes as they mature in 1936, the property will again be offered for sale. In the event that B purchases the tax certificate at the tax sale in 1936, B acquires a lien prior to that of A and upon payment of taxes in 1937 and 1938, B becomes eligible for the tax deed. If the property should be redeemed after B enters the transaction, B rather than A is entitled to the redemption penalties. The original lien of A remains a cloud upon the title, however, until A is reimbursed and the lien released. Since no court decision can be found on the point, it is not clear what would happen if A, in the hypothetical case, should be so foolish as to permit the property to go delinquent in 1936 and purchase another tax certificate on the same property. It is a reasonable presumption, however, that such action by A would automatically extend the redemption period just as if B were the purchaser at the sale.

Reversion

As might be expected, not all property offered at a tax sale is sold. Within the last six years many tax sales have been devoid of purchasers for the tax liens, but even in normal times certain tracts, for one reason or another, fail to sell. In 18 states property reverts to the state if not sold and to the county or other local governmental unit in the remaining states, except Indiana, Missouri, and Rhode Island where land is never acquired by the government through for-

[5] Smith-Hurd Rev. Stats. 1937, c. 120.

feiture. In actual practice, reversion is of little significance because, with a few exceptions, states have no record of the volume and location of tax-reverted lands, and they usually have no policy for administration of such property. Michigan, Wisconsin, and a few other states have adopted measures for administering tax-reverted lands, but a vast tax-delinquent domain several million acres in extent in other states is lacking in any definite, sound, and constructive administrative policy. The titles to the tracts included in this tax delinquent "no-man's land" are suspended somewhere between the original owners and the government, neither the former nor the latter having valid title.

Weaknesses in the Tax-Sale Machinery

Besides the general lack of a sound and definite policy for administration of tax-reverted lands, an examination of prevailing methods for enforcement of tax liens in the several states suggests serious weaknesses in the tax-sale machinery and defects in tax titles.

The shortage or complete lack of buyers for tax liens in most states in recent years and the widespread postponement of tax sales are evidences of the breakdown of the system that provides for sale of the liens to private buyers. This system is a fair weather device. In good times private individuals purchase the liens in order to benefit from the high penalties when the property is redeemed; but the government is forced to bear the burden of tax delinquency in periods of depression because individuals during such times refuse to purchase the liens. Since the government must bear the burden of tax delinquency during periods of depression, it seems reasonable that it should derive advantage of the penalties during periods of prosperity. Under this plan the government would retain the liens during the redemption period, at the termination of which the property would be sold outright. If provision should be made for retention of the liens by the government during the redemption period, the question arises as to how long a period of redemption should be granted. This question is not easy to answer, but it may be stated as a general principle that the redemption period should represent a fair compromise between the rights of the property owner and the interests of government. Three years, it appears, should afford the owner a reasonable length of time in which to redeem his property. At the termination of the redemption period, the liens should be vigorously enforced by an appropriate foreclosure proceeding followed by prompt sale of the property.

Defects in Tax Titles

That tax titles are weak evidences of ownership is well known by students of the subject. The main reasons for this are: (1) failure to give proper notice of the tax sale and redemption because of inaccurate land descriptions and incorrect ownership records, (2) lack of judicial authority for tax sale and issuance of tax deed, (3) failure to extend the property owner the fundamental constitutional privilege of a "day in court," (4) lax administration of enforcement provisions, (5) minor procedural irregularities, and (6) the liberal attitude of the courts toward owners who have lost title through tax delinquency.

Tax titles could be greatly improved by enforcing the liens in a manner similar to that used in foreclosing mortgages. This affords the owner a day in court and gives him an opportunity to present his defenses. The cost of foreclosure might be used as an argument against its adoption. This cost could be markedly reduced, however, by combining all causes of action, that is, the tax liens, in a blanket proceeding and having them handled by the public prosecutor.

Another objection to a foreclosure proceeding is the difficulty of serving process on unknown or non-resident owners and minors. The model tax law of the National Municipal League suggests a solution of this problem by a procedure *in rem* as an alternative to foreclosure by proceedings *in personam*. The former is directed against the land rather than against the person, and makes it possible to serve a summons by publication. In lieu of naming the defendants, it is possible under a proceeding *in rem* to describe them in the summons and other papers in the action. If the liens were held by the government and foreclosed at the expiration of the redemption period, in accordance with an earlier recommendation, the administrative work incident to foreclosure would be greatly reduced. Most of the tracts would no doubt be redeemed during the period in which the government would hold the liens, thereby greatly reducing the number to be foreclosed. Improvement of tax titles is imperative whether the delinquent tracts are resold to private owners or retained by the government. A foreclosure proceeding, such as has been suggested, would produce a valid title.

Upon completion of the foreclosure proceedings and perfection of the titles, the delinquent tracts should be offered for outright sale at a general tax sale. This gives individuals a final opportunity to acquire the land if they think the property is adapted to private ownership. It also places the responsibility for the decision on the individual who purchases the land. No property should be sold, however, for a sum less than accumulated taxes and penalties. Lands not purchased at the tax sale should be promptly entered by the government in a proprietary capacity and classified as to the appropriate public use. Steps should then be taken to convert the land to the proper use.

Conclusion

One of the important limitations attached to the ownership of property is the payment of lawful taxes. Every effort should be made to distribute the burden of taxes equitably and to administer governmental services efficiently. Taxes should be collected at times and in amounts that are convenient to the taxpayers. Even if these objectives are completely attained, which they never are, some taxpayers will be unable or unwilling to pay their taxes when due. Property owners who do not pay their taxes when due and therefore suffer the property to be sold should be given a reasonable period of time in which to redeem. A three-year redemption period has been suggested as a fair compromise between the rights of the property owner and the interests of government.

The following are recommended as other desirable features which should be included in a program for enforcement of property tax liens: (1) retention by the government during the three-year redemption period of all tax liens on delinquent real estate with penalties and interest thereon, (2) blanket foreclosure of all tax liens on unredeemed tracts at the expiration of the redemption period, (3) foreclosure proceedings *in rem*, with action directed against the land rather than the owner, (4) administration of foreclosure proceedings by the public prosecutor, (5) prompt entrance by the state into active, proprietary, possession of tax title lands and immediate inventory of such properties, (6) general sale to private buyers for tax-title lands for not less than accumulated taxes, interest, and costs, and (7) classification of tax-reverted lands according to appropriate use, with conversion of such lands to the purpose for which they are best adapted.

The Winnipeg Municipal Electric Utility:
I. Rate Policy and Rates Charged

By LAWRENCE S. DREIMAN*

DISCUSSION of the relative merits of municipal and private operation of local utilities should proceed in the light of accomplishments of the two kinds of operation and of the specific factors which have conditioned results in particular situations. Broad generalizations or appeals to general political philosophies do not contribute much to an impartial weighing of the alternatives presented. The study of which this article is a partial summary was undertaken in an attempt to examine in specific terms the degree of success achieved by the municipal electric utility in Winnipeg and to account for such results as were found to exist.

Background of Plant and Competitive Situation

The Winnipeg Hydro Electric System, or Hydro as it will frequently be called in this article, was established in an attempt to secure lower rates and more satisfactory service than were obtainable from the existing private electric utility. In 1906 electricity as well as gas and street railway services were provided by the Winnipeg Electric Railway Company. Previous to 1906, base rates charged by this Company for electricity were 20¢ per kilowatt-hour for light and 12½¢ per kilowatt-hour for power. Residents of Winnipeg had attempted without success to obtain reductions in these rates.

The Company operated its electric utility under franchise powers granted to two predecessor companies by the provincial legislature.[1] These franchises contained no provisions empowering the City of Winnipeg to control rates or conditions of service; the legislature refrained from regulation;[2] the utility produced current by relatively high-cost steam generation; and its management, in common with most utility managements of the period, had not yet discovered that a slight reduction in high per-unit prices might increase consumption considerably.

In 1902 the Winnipeg General Power Company, controlled by the Winnipeg Electric interests, began construction of a hydro-electric plant on the Winnipeg River.[3] Dissension between the City and the Company, long evident, reached a new high as this plant neared completion in late 1905 and early 1906. It was conceded that there was some reason for high rates when electricity was steam generated,[4] but with the reductions of operating costs resulting from use of hydro power, it was maintained that rates should come down. Rates, however, did not come down. In the meantime, the attention of those interested in a cheap adequate supply of power had

* Teaching Assistant in Economics, School of Business Administration, University of Minnesota.

Much of the material included in this article, as well as in the master's thesis (accepted at the University of Minnesota, August, 1938) on which it is based, was gathered through personal inquiry during the summer of 1937.

A second article will deal with the financial history, including results of operation, of the Winnipeg utility.

[1] Statutes of Manitoba, 1880, c. 36; 1892, c. 56.

[2] Administrative regulation of utilities was not provided for in Manitoba until 1912 when a comprehensive public utilities act (Statutes of Manitoba, 1912, c. 66) was passed and a public utility commission established.

[3] Winnipeg Electric Company, *A Short Review of Thirty-Two Years of Progress, Development and Service*, 1925.

[4] Coal prices in Winnipeg were (and are today) quite high because of the long rail haul from the Great Lakes required for American coal, and the generally inferior quality of western Canadian coal.

been turned to other available sites on the Winnipeg River, and investigations of their power possibilities had been made.

In early 1906 the City obtained authority[5] from the provincial legislature to build and operate a hydro-electric plant. Subsequently, a by-law providing for the borrowing of the necessary funds was passed and ratified by the voters. In the meantime, a lease on the Pointe du Bois site of the Winnipeg River had been secured from Ottawa. After some delay construction was begun. The plant was completed and the initial installation placed in operation in October, 1911.[6]

Although it was recognized that duplication of distribution systems would be wasteful, acquisition of the Winnipeg Electric facilities was not seriously considered because of the Company's uncompromising position. At first it would not listen to purchase proposals. As the municipal plant neared completion, the Company proposed selling at a very high figure.[7] The sale was not consummated because it was believed that acquisition at the price asked would make low rates impossible.[8] From a long-run point of view it might well have been desirable to purchase the private company—even at an inflated price—so that electricity could be supplied by a single agency. For better or for worse, however, a duplicate distribution system was constructed, and from the beginning of Hydro's operation to the present there has been competition between the City and Winnipeg Electric in providing electric light and power services.[9]

After Hydro began operations, the switch-over of domestic customers who had become quite anti-company was general, although not universal. Many commercial and industrial consumers, however, remained with the private company. Because of the private company's greater influence over business consumers through the years, Hydro has been forced to seek residential consumers and to stimulate the domestic load. At present, Hydro does about 80% of the domestic business within the City, 65% of the commercial business, and 40% of the industrial power business.[10] It does about 65% of the total electrical business in Winnipeg.

Winnipeg Hydro Rates Compared with Those of Other Selected Utilities

Since Hydro was established primarily in order to secure electricity at low cost for residents of Winnipeg, the most important test of the management's effectiveness is the reasonableness of rates charged. Reasonableness of rates can be examined in two ways.[11] A thorough-going analysis of all costs can be made or charges can be compared with those of other utilities. The first method requires the use of engineering and accounting data which are not available and involves, at best, a subjective estimate. The second method offers more satisfactory results for the purposes of this study.

[5] Laws of Manitoba, 1906, c. 95.

[6] For a brief description of the present power plants, transmission and distribution systems see *Public Ownership*, October, 1937, pp. 128 and 129.

[7] *Manitoba Free Press*, July 29, 1911.

[8] *Ibid.*, March 28, 1911.

[9] At present, almost the entire City is served by both utilities. A considerable part of the line distribution system within the City is jointly used.

Hydro has expanded outside of Winnipeg proper but to a slight degree. Approximately 94% of its business (based on distribution of revenues for 1936) is derived within the City proper. The lion's share of the suburban electric business is done by the Winnipeg Electric Company (name changed from Winnipeg Electric Railway Company in 1924).

[10] Based on information obtained from the two utilities. The figures are approximations because wholly comparable statistics were not available.

[11] Mosher et al., *Electrical Utilities: The Crisis in Public Control* (New York: Harper & Bros., 1929), p. 232.

Rate comparisons between different utilities cannot, however, be used as absolute measures of efficiency. Costs are conditioned by such a large number of variables that high or low rates *per se* do not indicate the presence or absence of able management. If, however, the rates of approximately similarly situated operating units are compared, the findings do aid in evaluating both the effectiveness and policy of management.

Some of the factors entering into the cost of producing and distributing electricity in Winnipeg are quite favorable. First, most of the system's energy requirements are generated at two advantageously situated and low-cost hydro-electric plants. Second, the distribution system within the City consists largely of overhead, and therefore relatively inexpensive, equipment. Underground distribution equipment extends for only about 25 blocks in the heart of the City. Third, high average domestic consumption and the use of off-peak power in the electric boilers of the affiliated central steam-heating system result in a high annual load factor (65.87% in 1936),[12] which indicates an intensive utilization of the fixed plant and a minimization of fixed costs per unit of output.[13] This intensive utilization of plant, to be sure, results from consumption stimulated by low rates, but the consumption once stimulated, if maintained, permits the continuation of low rates.

Major conditions which tend to offset, in part, the favorable factors mentioned are three in number. First, Winnipeg is not a heavily industrialized city, and with the major part of the existing industrial power business going to the private company, Hydro's load characteristics are less satisfactory than would be the case if it had a large amount of power business to combine with its domestic and commercial loads. Second, the municipal utility serving what is, after all, a relatively small and isolated community does not have whatever advantages may result from the operation of a large interconnected system and the securing of managerial and technical services from specialized affiliates. Third, competition which has caused a duplication of distribution systems and overhead managements has increased costs above those which would have prevailed had a single agency been supplying the market.

Because superior hydro facilities and a cheap distribution system make for low-cost electricity in Winnipeg, Hydro rates will be compared not with cities of comparable size—the usual basis of comparison—but rather with recognized low-rate areas. These areas together with brief descriptions of the utilities[14] serving them follow.

Areas Chosen for Comparison. The electrical distribution system in Toronto is operated by the Toronto Electric Commission, a municipal organization. This organization is affiliated with the Hydro Electric Power Commission of Ontario, from which agency it purchases power. Power used in Toronto is generated at one of the most favorable hydro sites on the continent—Niagara Falls—about 90 miles from Toronto. The municipal utility is non-competitive.

Tacoma, Washington, is served ex-

[12] The average load factor for the United States as a whole was about 37.6% in 1937. (*Electrical World*, January 15, 1938, p. 81.)

[13] This is true, of course, only on the assumption that the peak load approaches the capacity of the plant. This assumption appears to be valid in the case of Hydro even after adjustment is made for the power purchased during the last several years.

[14] This material was secured from a number of sources including the annual reports of some of the utilities, *Moody's Manual of Investments, Public Utilities Securities* (1937), and Federal Power Commission, National Power Survey, *Cost of Distribution of Electricity*, Power Series No. 3 (Washington, 1936).

clusively by the Light Division of the municipal Department of Public Utilities. Most of the utility's energy requirements are generated at its three hydro-electric plants. Over ½ of the total energy is sold to large industrial customers. Only a small part of the downtown area of the City is served by an underground system.

Seattle is served by the municipal Department of Lighting and the privately owned Puget Sound Power and Light Company. The municipal department's operations are largely confined to Seattle proper where it serves about 75% of all customers and where there is practically a complete duplication of distribution systems. About ½ of the municipal utility's energy sales are for commercial and industrial power uses. Energy is generated at four hydro plants and one steam stand-by station. An area of about 110 city blocks in the business district of the city and one exclusively served residential area are supplied from underground distribution systems.

Los Angeles was until quite recently served by the municipal Bureau of Power and Light and by two private companies. Since February 1, 1937 the Bureau has had control of the entire light and power business within the city.[15] Formerly, the system's power was partly generated at five hydro-electric plants located along the water aqueduct originating in the Sierra Nevada mountains, and the remainder purchased from the Southern California Edison Company. Since late 1936 a substantial part of the energy used has been generated at Boulder Dam, approximately 270 miles distant from the city. Underground distribution lines are limited to congested commercial centers and a few residential areas.

The TVA rates used in the comparison to follow are those charged by TVA-served distributing agencies. They are computed from the standard resale rate schedules incorporated in the wholesale power contracts between the Authority and the organizations purchasing its power.[16] Organizations distributing power as of June 30, 1937 included 16 municipalities and 13 cooperatives,[17] located in Tennessee, Mississippi, Alabama, and Georgia.

Portland, Oregon, is one of the very few cities in the United States in which two privately owned electric utilities are in competition. The city is served throughout its entire area by the Portland General Electric Company and the Northwestern Electric Company. The former serves about 75% of the total customers within the city. Both utilities also serve large areas outside of Portland. The Portland General Electric Company has somewhat more capacity in hydro than in steam plants; the Northwestern Electric Company's capacity is mostly in steam plants. Distribution facilities supplying the Portland business district are underground.

The Buffalo Niagara Electric Corporation serves Buffalo, New York and a number of surrounding localities. Some of the utility's energy is produced by steam, but a substantial part is purchased from affiliated companies which

[15] With the exception of certain small territories served by the Southern California Edison Company, which territories have been annexed to the City of Los Angeles since May, 1922, the date of acquisition of that part of the Edison Company system within the city. The second competitor, whose electrical system within the city was acquired in 1937, was the Los Angeles Gas and Electrical Corporation.

[16] TVA rates for commercial and industrial customers are subject to a temporary developmental surcharge of (with one exception) 10%. Rates given in the rate comparison include this surcharge. A few of the Authority's distributing agencies have eliminated the surcharge, but most still retain it.

[17] TVA, *Annual Report*, 1937, p. 23.

derive it from hydro plants at Niagara Falls.

Minneapolis, Minnesota is supplied with electricity by the Minneapolis General Electric Company, a subsidiary of the Northern States Power Company. Most of the Company's installed capacity is in steam plants but, when water conditions are favorable, substantial amounts of hydro-generated power are purchased from Wisconsin affiliates. Much of the Minneapolis business district is served from underground equipment. Minneapolis is not served from low-cost generating and distribution facilities, but is included in the rate comparison because of its interest to readers of this study.

No statistical or precise measures of the superiority or inferiority of the utility facilities described have been attempted. In all communities rates are relatively low. All communities possess some advantages—advantages which may well offset the technological advantages of the Winnipeg system. A comparison of rates with these communities as points of reference, then, should throw light on the reasonableness of Winnipeg rates.

Method of Comparison. The method of comparing rates employed here is that developed and used by Mosher and his associates in their study of the Ontario Hydro-Electric System[18] and used in the rate studies of the Federal Power Commission. A number of specifications for typical bills covering a wide range of uses was drawn up. These specifications included demand, quantity of energy consumed and, where necessary, the other factors which are significant in determining costs to individual consumers. Then computing the bills which would have been charged for these similar services in the several communities under investigation, a measure of comparability was obtained.[19]

This method is, of course, not perfect. The only rates truly compared are those for the bills enumerated. No "general rate level" can be represented, for there is no such entity. Moreover, this type of comparison leads to partially meaningless results when promotional rates obtain in one community and not in another.[20] Although the rates of all utilities used in this comparison are more or less promotional, the degree to which the schedules stimulate an increased use of current obviously varies. Within these limitations, however, the device is the best yet developed.

Results of Comparison. Table I includes eight cases representing typical domestic electric services ranging from a small customer using current chiefly for lighting purposes to a completely electrified house. The monthly costs for each of these services as of January 1, 1938 have been computed for each of the utilities[21] and have been reduced to relatives,[22] using the Winnipeg bill for each case as 100.

[18] *Op. cit.*, pp. 232–67.

[19] Two alternative methods of comparison could have been used. First, the actual rate schedules could have been compared directly. These schedules, however, are so complex and heterogeneous that comprehension of the relative costs of service to the different categories of consumers is very difficult if not impossible. Second, average revenues per kilowatt-hour for the several utilities might have been compared. The reasons for shunning this method like the plague are forcibly brought out by Mosher in the study quoted above (*op. cit.*, pp. 234–48), and need not be repeated here.

[20] For example, it is not very fruitful to compare the cost of electric water heating in two communities if one has a special water heating rate and the other bills current used for this purpose at the regular lighting rate, if used.

[21] Rates were computed by each of the utilities included in the comparison and were checked with rate schedules submitted by them.

[22] The actual net prices for each of the cases in Tables I, II and III are given in Appendix E of the thesis, *op. cit.* Special assumptions or qualifications noted in connection with the computations of monthly costs are also indicated there.

Table I suggests that Winnipeg domestic customers obtain their electricity at extremely low cost. Only Toronto offers lower rates for intermediate levels of consumption. This lower cost can be accounted for by the larger size of Toronto and the absence of competition there, the use of low-cost Niagara power, and the effectiveness of the Ontario and Toronto Hydro-Electric Commissions. TVA charges for two cases are the same as the corresponding Winnipeg bills. Charges for the other bills, however, and for all consumptions in Tacoma, Seattle, Los Angeles, Portland, Buffalo, and Minneapolis are higher. Disregarding Toronto and the TVA communities, it appears that domestic consumers pay approximately 10% to 100% more for corresponding amounts of electrical service in six selected cities than in Winnipeg. Even TVA bills run 50% higher than Winnipeg bills for certain levels of consumption.

No decided trends as between different levels of consumption are apparent. The varied rate schedules of the several utilities affect different consumers differently, but most residents of cities other than Winnipeg pay more for their domestic electricity than do Winnipeg consumers, and many pay considerably more. Domestic consumers in Buffalo, served with Niagara power, seem to pay about 50% more for their current than do householders in Winnipeg. The proportionally higher rates for Cases 7 and 8 are largely nominal because natural gas is available for water heating service in Buffalo, and the electric rate schedule is not especially designed to attract this business. As might be expected, Minneapolis rates are considerably higher than most of those prevailing elsewhere, but the comparison—for intermediate consumptions at least—is not too unfavorable.

Table II includes five cases of commercial light service. These five demand and consumption combinations are not typical in the same sense as the domestic combinations. Because of the extremely wide variation among commercial light services,[23] the cases can merely sample the field. The samples, however, do

[23] See Herrmann, R. R., "Characteristics of the Commercial Lighting Load," 13 *Journal of Land & Public Utility Economics* 38–48 (February, 1937).

TABLE I. COMPARISON OF WINNIPEG HYDRO *Domestic Electric Rates* WITH THOSE OF 8 SELECTED UTILITIES, AS OF JANUARY 1, 1938*

Utility	Typical Monthly Bills†							
	1	2	3	4	5	6	7	8
	15 Kwhs.	25 Kwhs.	40 Kwhs.	100 Kwhs.	150 Kwhs.	250 Kwhs.	500 Kwhs.	610 Kwhs.
Winnipeg	100‡	100	100	100	100	100	100	100
Toronto	150‡	100	71	71	77	83	104	125
Tacoma	136	151	127	109	109	110	128	142
Seattle	150‡	167	167	164	175	185	166	183
Los Angeles	132	147	138	152	155	155	143	159
TVA	150‡	100	100	128	146	152	144	153
Portland, Ore.	200‡	167	157	173	178	184	168	186
Buffalo	150‡	151	142	157	159	161	189	223
Minneapolis	200‡	159	147	183	198	202	191	214

* Source of data: Correspondence with utilities.

† Domestic bills Nos. 1–7 are identical as to size of residence assumed, amounts of consumption, and division of total consumption figures among different uses with those used by the Federal Power Commission in its electric rate surveys. (Cf. Federal Power Commission, Electric Rate Survey, *Domestic and Residential Rates in Effect January 1, 1935* (Washington, 1935), pp. 6 and 10.) Bill No. 8 differs from No. 7 only in allowing 360 kwhs. for water heating instead of 250 kwhs. The actual bills for Winnipeg Cases 1–8 are as follows: (1) $.50; (2) $.75; (3) $1.20; (4) $1.95; (5) $2.40; (6) $3.30; (7) $4.80; (8) $4.80.

‡ Minimum bill.

TABLE II. COMPARISON OF WINNIPEG HYDRO *Commercial Lighting Rates* WITH THOSE OF 8 SELECTED UTILITIES, AS OF JANUARY 1, 1938*

Utility	Typical Monthly Bills†				
	1	2	3	4	5
	50 Kwhs. .75 Kws.‡	150 Kwhs. 1.5 Kws.‡	375 Kwhs. 2 Kws.‡	1,500 Kwhs. 7.5 Kws.‡	3,000 Kwhs. 20 Kws.‡
Winnipeg	100	100	100	100	100
Toronto	102	95	65	69	90
Tacoma	132	119	88	79	66
Seattle	169	169	114	122	137
Los Angeles	149	132	118	115	107
TVA	124	124	110	84	68
Portland, Ore.	188	188	144	139	156
Buffalo	168	120	95	95	96
Minneapolis	225	217	183	146	144

* Source of data: Correspondence with utilities.
† The actual bills for the five Winnipeg cases are: $1.33; $4.00; $10.00; $36.00; $66.00.
‡ Maximum demand.

range from a small account to a substantial one.

Commercial lighting customers also appear to fare rather well in Winnipeg. Small consumers pay less there than they would in any of the other eight areas. Toronto customers corresponding to Case 1 would pay only slightly more; consumers served by the TVA would pay 24% more; and bills for the other areas range upward to that prevailing in Minneapolis, which is 125% higher than the Winnipeg bill. Cases 2, 3, 4, and 5 all include one or more bills lower than the Winnipeg ones. Toronto rates for three cases are as much as 10% lower than the corresponding Winnipeg bills; Tacoma has three bills in this category; and TVA has two. Seattle, Los Angeles, Portland, and Minneapolis rates for all cases, however, are higher than the corresponding Winnipeg bills.

The absence of a single rate level, again, makes generalization difficult. It would seem that the larger commercial lighting customers in Winnipeg do not benefit by the same relatively low costs as do smaller commercial establishments and domestic users. Compared with any but Toronto, Tacoma, and TVA bills, however, Winnipeg's rates appear in a very favorable light.

Table III includes four cases of industrial power service which range from small to large usages. Even more than in the instance of the commercial light accounts are these cases mere samples of the industrial power field. Conditions have been indicated for these bills which specify the services included and make them comparable regardless of where supplied.

The data here given neither prove nor refute the oft-repeated charge that because of political influences publicly owned utilities exploit their large industrial customers and sell to the more numerous smaller consumers at a loss. The only utility consistently offering substantially lower rates to both small and large power consumers is a municipally operated one—the Tacoma system. Winnipeg prices for the four sample bills range from 68% to 72% of those charged by the privately owned Minneapolis utility. Given this consistency, if the Winnipeg Hydro is overcharging its large and undercharging its small power customers, the private company in Minneapolis is doing the same thing.

However, Minneapolis power bills are relatively lower than Minneapolis domestic bills, which suggests that Winnipeg domestic consumers are favored as compared with Minneapolis residential users.

TABLE III. COMPARISON OF WINNIPEG HYDRO *Industrial Power Rates* WITH THOSE OF 8 SELECTED UTILITIES, AS OF JANUARY 1, 1938*

Utility	Typical Monthly Bills†			
	1	2	3	4
	150 Kwhs. 1.5 Kws.‡	750 Kwhs. 6 Kws.‡	6,000 Kwhs. 25 Kws.‡	75,600 Kwhs. 300 Kws.‡
Winnipeg....	100	100	100	100
Toronto.....	96	82	60	103
Tacoma.....	64	57	49	56
Seattle.....	164	144	86	113
Los Angeles..	124	101	81	89
TVA.....	135	109	85	102
Portland, Ore.	164	143	89	115
Buffalo.....	131	101	83	87
Minneapolis.	146	141	142	148

* Source of data: Correspondence with utilities.
† All cases assume continuous load with no restrictions as to hours or months of use, and power factor of 85%. Case 4 assumes service at high voltage. The actual bills for the Winnipeg cases are: $3.65; $17.66; $110.46; $764.82.
‡ Maximum demand.

Although generalization from a small number of instances is dangerous, we can conclude that Winnipeg Hydro power rates compare less favorably with those charged elsewhere than do either its commercial or residential rates. Although small power consumers obtain relatively low rates, intermediate and large[24] consumers derive only little advantage or else pay rates higher than those charged in most of the comparison areas.

Rate Policy of the Hydro

The general rate policy of the Winnipeg Hydro can be summarized as follows: (1) service shall be provided at cost; (2) rates shall be set to stimulate consumption of electricity; (3) rates shall be uniform as between customers within the City, but may be higher in outside municipalities.

In practice, the "service at cost" policy of the Hydro has amounted to setting rates at levels which would cover all explicit expenses, meet the depreciation charges established, and provide small operating surpluses during favorable years. The utility is not used as a means of taxation, nor is it subsidized by the taxpayers.[25]

Although the general policy of a utility may be to supply service at cost, the designing of a rate structure which will yield the necessary revenues and divide costs among consumers on an equitable basis is not easily accomplished. A large part of the costs of providing electricity are common not only to different consumers in the same class but also to different classes of consumers. Therefore, even a partial allocation of costs is made with difficulty unless complete information regarding the characteristics of the several parts of the load is available. Because of the lack of these data and the presence of a complicating factor in Hydro's relatively large non-operating revenues,[26] this has been made impossible.

From what superficial evidence is available there is no proof that any single class of consumers is subsidizing other groups. Power rates were seen to be somewhat high relative to domestic and commercial rates, but they are not consistently out of line with charges made by other utilities. Furthermore, Table IV shows that the sale of commercial and industrial power provided only about 13% of Hydro's total operating revenues in 1936. Certainly these reve-

[24] I.e., large power customers whose charges are based on the regular power rate-schedule. No data are available regarding comparative special contract rates.

[25] The self-supporting character of the utility will be touched upon later in this article, and treated more fully in the subsequent one.

[26] See subsequent article.

nues are not a substantial source of funds for making up losses incurred in serving the politically significant domestic consumers.

TABLE IV. SOURCES OF HYDRO OPERATING REVENUES IN 1936*

Sources	Amount of Revenue	Percent of Total Operating Revenues
Domestic lighting	$ 659,668	21.8%
Domestic heating and cooking	491,380	16.3
Domestic water heaters	427,032	14.1
Commercial lighting	478,758	15.9
Commercial miscellaneous	148,452	4.9
Commercial and industrial power	400,335	13.2
Municipal departments	207,353	6.9
Steam heating system: Off-peak power	158,399	5.2
Municipalities other than Winnipeg: Street lighting and power	21,742	.7
Unearned discount†	29,729	1.0
	$3,022,848	100.0%

* Winnipeg Hydro Electric System, *Annual Report*, 1936.
† Not differentiated as to source among several classes of business.

A second possible source of subsidization is to be found in the charges made to municipal departments for services rendered. If losses were incurred in serving domestic consumers and these losses recouped through excessively high charges to the municipality, Winnipeg taxpayers would be paying a part of the cost of supporting the utility. There seems to be no evidence, however, that the charges to municipal departments are excessive. As a general rule, city departments pay the standard rates for electrical energy used by them. In some few cases, straight-line meter rates have been substituted for the general rate schedules, but this has been a matter of convenience, and the revenues obtained under either method of computation would be approximately the same. The street-lighting charge is computed on the standard alternating current power schedule, with power factor adjusted to 85% and with the exception that the billing is based on measured demand instead of connected load. The cost per kilowatt-hour during the last several years has averaged about 5.5 mills. Current sold to the subsidiary steam-heating system is all off-peak power sold at 1 mill per kilowatt-hour.

Over 50% of Hydro's total operating revenues are collected from that class of consumers which unquestionably does enjoy very low rates—the domestic users. This compares with a figure of about 35%[27] for the United States as a whole.

The allocation of electric utility costs among the several groups of consumers must of necessity involve an apportionment on more or less arbitrary bases. Those costs which are common to more than one class might well be apportioned by different rate engineers in quite unlike proportions. Although Hydro's rate structure is not above reproach, probably its apportionment of costs has been as equitable as that of most private utilities.

If, as seems to be the case, domestic customers have been favored somewhat, this can be justified on several grounds. First, this was necessary in order to obtain business in the beginning. Second, advantages given to domestic consumers are generalized throughout the entire community. Third, this has not resulted in excessively high rates for other users. Finally, low rates have tended to stimulate consumption,[28] and so have improved the profitability of the residential business.

[27] *Electrical World*, January 15, 1938, p. 85.

[28] Average residential consumption of electricity during 1937 in Winnipeg, the United States generally, and certain of the cities used in the rate comparison was as follows: Winnipeg*—4,765 kwhs.; Toronto—2,172 kwhs.; Portland, Oregon (P.G.E. Co.)—1,377 kwhs.; Seattle*—1,268 kwhs.; TVA communities—1,222 kwhs.; Minneapolis—890 kwhs.; United States—797 kwhs.; Los Angeles*—783 kwhs. The asterisk indicates municipal utilities' customers only. See also Table VI with respect to comparative residential consumption data. (Sources of data: correspondence with utilities and *Electrical World*, January 15, 1938, p. 87.)

Although probably no class of business is obviously not self-supporting, doubtless the small domestic consumers do not reimburse the utility for the full costs involved in serving them. In a system which is predominantly hydro and in which the distribution equipment is installed on the assumption that the majority of consumers will eventually have large loads, most costs vary with demand, density of population, and number of customers, and not with amount of energy consumed. Those lighting customers who pay only the minimum charge of 50 cents, therefore, are probably not paying their way. The tendency to serve small domestic customers at a loss, however, is a general one, and Hydro should not be condemned for following this practice. It might also be pointed out that residential customers who operate electric ranges—and this includes considerably more than ½ of all domestic users in Winnipeg—are subject to a total minimum charge of $1.00. Few private utilities have minimum residential charges higher than this.

Rates based strictly upon commercial, demand, and energy charges would probably result in a more equitable[29] allocation of costs than that which prevails now. Although the Hydro management is aware of this fact, the expense of demand meters and the antipathy of the consuming public to such a rate would make a proposal embodying such a scheme quite as unlikely to be offered in Winnipeg as in most cities of the United States.

Rate Reductions and Individual Rates

Hydro established its present low levels of rates almost from the very beginning. The basic domestic rate charged by the private company in 1905 was 20¢ per kilowatt-hour. In 1906, after hydro power had become available and when public ownership sentiment was running high, this was reduced to 10¢. In August, 1911, when the City announced that its domestic rate was to be 7½¢, the private utility followed.[30] The municipal utility maintained a 7½¢ rate for about three months after its establishment. This higher rate was reduced to the present 3¢ basic domestic charge in December, 1911.[31] The present form of the residential lighting schedule was instituted in May, 1916,[32] and made applicable to all residences in 1922.[33] This schedule includes a second block of current at .9¢ net, and a demand element based on the size of residences which determines how much current shall be billed on each of the blocks.

The remainder of the schedule also took on its present form[34] at an early date. The existing alternating current power rate was adopted in February, 1912; the commercial lighting rate in May, 1913; (substantially) the present heating and cooking rate in 1914; and the direct current power rate in 1915. Minor changes and adjustments have been made since that time. With the exception of the special water heating rates which were developed during the 1920's and 1930's, most of the present rates date from the first few years of the utility's development.[35]

[29] Equitable in the sense of being based on proportional costs; not on the basis of any philosophical or social criterion.

[30] *Manitoba Free Press*, November 29, 1911.

[31] *Winnipeg Tribune*, December 5, 1911.

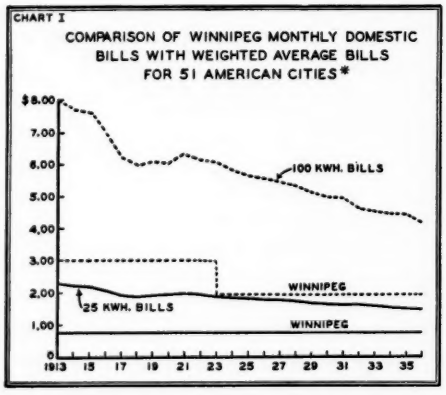
[32] Information regarding the history of Hydro rates was furnished by R. V. Slavin, Sales Manager of the Hydro.

[33] "Report of the Hydro Audit Committee to City Council," *Minutes of Winnipeg City Council*, March 7, 1927, p. 207.

[34] See Appendix F of thesis, *op. cit.*, or Winnipeg City Clerk, *Winnipeg Municipal Manual*, 1937, pp. 155–8 for copy of the complete current rate schedule.

[35] This suggests the possibility of an interesting investigation into the general effects of rigid utility charges—a problem quite apart from that of the general levels of charges. The former problem cannot, however, be considered here.

In pioneering low rates, Hydro performed a valuable service for the people of Winnipeg. Rates there are not only low now, but they have been low for many years. The extent to which relatively low rates prevailed in Winnipeg before reductions were adopted generally throughout the United States is suggested on Chart I. All reductions originated by Hydro were necessarily adopted by its private competitor, so that administrative regulation of rates has been unnecessary within the City.



* Bills computed as of January 1 of each year; 25 kwh. bills are for lighting and small appliance service; 100 kwh. bills are for lighting and appliance service, other than cooking and water heating. Averages are computed from rates of 51 cities listed by U. S. Dept. of Labor in its survey of retail prices, and are weighted proportionately to population.
Source of averages: Vincent, W. J., *Edison Electric Institute Bulletin*, June, 1936, pp. 217–24.

A word of comment should be offered regarding Hydro's flat-rate water-heating. Monthly charges are based on the capacity of the units, that for a 500-watt heater, for example, being $1.67 gross or $1.50 net per month. The heaters have immersion-type elements which draw current continuously. A 500-watt heater uses 360 kwhs. in an average month, operating at 100% load factor. This type of flat-rate is not open to the same objections as the earlier flat-rates per customer. The charge is based entirely on demand and energy consumed. Furthermore, its simplicity appeals to many users. In Winnipeg the immersion type of heater used on this rate (which averages about .4¢ per kwh.) has been especially popular because its use obviates the necessity of purchasing an expensive, automatically controlled heater.

Consumption of Current by Domestic Users

Low rates in Winnipeg have stimulated a very high average consumption of current. Table V indicates the high relative saturation of major appliances there. Ranges, water-heaters, and many small appliances, including irons, washers, toasters, room-heaters, etc., are widely used. The inconsiderable saturation of electric refrigerators is attributable primarily to their high original cost and to the availability of ice as a substitute at rather modest prices. The considerable saturation of other current-consuming devices is in spite of a very high level of appliance prices.[36] Given

TABLE V. MAJOR APPLIANCE SATURATION IN SEVERAL SELECTED AREAS*

Area	Ranges	Water Heaters	Refrigerators
Winnipeg†	61.4%	55.0%	15.0%
Dominion of Canada†	18.8	11.2	15.5
United States	7.9‡	1.5§	41.1‡
Ontario Hydro§	27.3	15.9	12.6
Portland, Oregon¶	27.2	6.1	
Minneapolis¶	6.5	2.0	
Tacoma‡	30.6	21.6	
TVA Communities‖	20.0	7.0	52.0
Seattle**	40.0	24.0	29.0
Los Angeles**	3.3	0.9	

* Data compiled from various sources, including correspondence with some utilities.
† July, 1937.
‡ January 1, 1937.
§ December, 1935.
¶ March, 1938. (The Portland saturation figures are for customers of the Portland General Electric Company only.)
‖ January 1, 1938.
** February, 1938.

[36] The Canadian appliance market is protected by a considerable tariff on imports from the United States. In 1935, e.g., the ad valorem duties on electric refrigerators and washing machines were 40% and 35% respec-
(*Footnote 36 continued on page 399*)

here a case of joint demand for energy and electrical appliances, low energy costs have permitted the paying of relatively high prices for appliances.[37]

Average domestic consumption compared with that prevailing elsewhere indicates the extent to which electricity has been put to work in the average household.[38] Table VI presents Winnipeg annual residential consumption and revenue data for 1926 through 1936; average United States data for the same period; and Winnipeg consumption and revenues for lighting and small appliances alone[39] during this period.

Winnipeg domestic consumption bulks very large compared to that which prevails on the average in the United States. In 1936, for example, the average Winnipeg user consumed 6 1/3 times as much current as did the average American user and paid only 15% more for this far greater consumption. For the years 1926 to 1934, the average Winnipeg residential consumption for lighting and small appliances alone was somewhat in excess of the American average consumption for all purposes; for the last three years of the period covered, this consumption was slightly less than the American averages. For these roughly corresponding amounts of service, however, the Winnipeg consumer paid only about ½ the price paid by the average American household.

The Federal Power Commission found that, as of January 1, 1935, 300 kwhs. represented the median average annual consumption of those residential consumers in the United States who use electricity for lighting and small appliances alone.[40] Since no apparent non-price factors would tend to call forth a higher average consumption in Winnipeg for the same uses, it would seem that the low price of current there has stimulated a consumption about twice as large as the American average.

(*Footnote 36 continued from page 398*)
tively. (From *The Trade Agreement with Canada*, Report No. 111, second series, U. S. Tariff Commission, 1936, p. 56.) In addition to the custom duty there is also payable a special excise tax of 3%, and the Dominion sales tax of 8%, both computed on the duty-paid value. A sample comparison of Winnipeg and Minneapolis electrical appliance prices is included in Appendix G of the thesis, *op. cit.*

[37] The purchase of current-using devices has also been stimulated by an aggressive Hydro appliance sales department.

[38] Average commercial light or industrial power consumption comparisons would not be very meaningful because of the diversity among these groups of consumers.

[39] That is, consumption other than that for heating and cooking purposes.

[40] *Domestic and Residential Rates in Effect January 1, 1935, op. cit.*, p. 6.

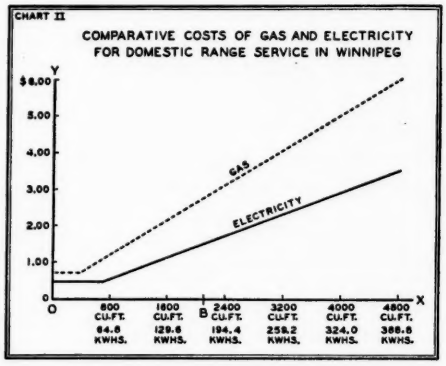
TABLE VI. ANNUAL AVERAGE RESIDENTIAL CONSUMPTION AND REVENUE DATA*

Year	Winnipeg Totals		U. S. Average		Winnipeg Lighting	
	Kwhs. per Consumer	Annual Bill	Kwhs. per Consumer	Annual Bill	Kwhs. per Consumer	Annual Bill
1926	2,716	$28.91	428	$29.87	577	$15.06
1927	3,064	30.86	444	30.19	610	15.58
1928	3,384	32.50	463	30.76	629	15.70
1929	3,741	34.47	477	30.05	651	15.94
1930	4,009	35.86	548	32.88	648	15.84
1931	4,169	36.36	580	33.29	631	15.35
1932	4,308	37.98	597	33.25	659	15.92
1933	4,418	37.72	593	32.56	642	15.46
1934	4,518	37.61	624	33.07	636	15.24
1935	4,616	38.25	669	33.38	657	15.64
1936	4,694	39.00	727	33.81	693	16.27

* Sources of data: U. S. Averages, *Electrical World*, January 15, 1938, p. 87; Winnipeg information, *City of Winnipeg Hydro Electric System Billing Analysis.*

The considerable consumption of energy for heating and cooking purposes in Winnipeg, which largely builds up the general average, is the result of both the low rates available and the non-accessibility or high cost of substitutes. Although electricity for lighting is virtually non-competitive, rather satisfactory substitutes for heating and cooking purposes are available. The most important rival supplies are gas, petroleum, coal, and wood. Of these fuels, only gas and petroleum offer readily available and easily controllable sources of heat. Both gas and petroleum are, however, relatively expensive in Winnipeg. As between these two fuels, gas wherever available is commonly preferred for residential purposes because of its superior qualities and generally lower cost.

Gas distribution facilities in Winnipeg do not extend throughout the City. Gas is available to only about 2/3 of the households, and these do not include occupants of some of the larger residences in the newer districts. Furthermore, the comparatively high cost of gas, resulting largely from the high cost of the coal from which it is manufactured, makes it less economical than electricity. Assuming gas purchased under the general rate (G. 1) of the Winnipeg Electric Company, the comparative costs involved in using gas or electricity for domestic range service are shown on Chart II.



Along the OX axis of Chart II are measured the corresponding amounts of gas or electricity necessary to produce a given amount of domestic cooking service.[41] Along OY is measured the total cost of either service. The average Winnipeg Hydro customer's monthly consumption of current for cooking in 1936 was 170 kwhs. (OB); the net cost for this would be $1.53. The net cost of gas needed to perform the same service would be $2.79, or about 82% more. For consumptions larger than the average (over a considerable extent[42]), the price advantage in favor of electricity is greater; for smaller consumptions it is slightly less, but still considerable. The cost figures referred to apply only to the gas or electricity consumed, and not to the original cost of the appliance or to the

[41] The relationship between the quantities of gas and electricity needed for given amounts of domestic cooking service was arrived at in the following way: the heat content of a cubic foot of Winnipeg gas (510 B.t.u.'s) was divided by the heat content of a kilowatt-hour of electricity (3,415 B.t.u.'s). This gave a quotient of .149 which represents the kilowatt-hour equivalent of one cubic foot of gas. Because a large part of the heat content of gas is not applied directly to utensils on a domestic range, more heat is required to accomplish a given result than on an electric stove. One testing laboratory has found that a gas range will consume 1.84 times as much heat as an electric range in performing a given task. (The comparative efficiency of a gas water-heater would be even less because the heater must be vented, and so a large part of the heat input escapes through the chimney.) The kilowatt-hour equivalent of a cubic foot of gas was, therefore, divided by 1.84 giving a quotient of 0.81, which figure was used to " . . . convert gas range input in cubic feet into equivalent electric range input in kilowatt-hours." (This method suggested and testing laboratory finding taken from Foster, Norman B., "Compares Costs of Gas and Electricity," *Electrical World*, February 15, 1936, p. 494.)

[42] When gas consumption is greater than 5 MCF per month, the amounts over that figure are billed at lower block rates. These lower rates, however, would affect very few domestic range users.

maintenance expense. The original cost of a gas range is less than that of an electric appliance. Given, however, the considerable operating cost advantage in favor of electricity and the fact that electric cooking is usually considered by consumers a more desirable service, it is not at all difficult to explain the very high saturation of electric ranges in Winnipeg. For the same reasons, electric water heating, usually considered a "luxury service" in the United States, is far more general in Winnipeg than is gas service.

Conclusions

Hydro has been quite effective in obtaining low rates for residents of Winnipeg. Most consumers there, including especially the domestic, smaller commercial, and smaller industrial users, do obtain their current at very low cost. Furthermore, these low rates have not been at the expense of satisfactory service standards. Sixty-cycle current is distributed instead of the 25-cycle power of much of the Ontario Hydro-Electric System, including Toronto[43]; a number of bill-collection agencies are scattered throughout the City, thus making convenient the payment of accounts in a city where payment by check is not common; and service calls, according to a number of personal inquiries made by the writer, are made with dispatch.

Financially, Hydro has become a self-sustaining unit. The utility's financial history, however, together with the general conclusions of the present study will be presented in the subsequent article.

[43] *Annual Report*, Hydro-Electric Power Commission of Ontario, 1937, pp. VI, VII, XXIX, and chart facing p. 66.

Settler Relocation:

A Description of the Minnesota Plan

By A. D. WILSON*

SETTLER relocation work has been carried on by the Government in northern Minnesota for the past four years. About 100,000 acres of submarginal land in two conservation areas have been purchased and over 200 farm families have been relocated on better land, with better access to roads, schools, and markets.

The plans followed in relocating settlers have been considered by many to be very conservative. The aim has been (1) to appraise all submarginal land bought on a basis fair to the seller and fair to the taxpayers furnishing the purchase money; and (2) to aid in relocating all eligible clients without subsidy, but with a farm set-up that offers to each a fair chance to pay out under average conditions, if he will make a reasonable effort to do so.

These projects were planned and have been carried out with a view to answering some of the questions involved in settler relocation, and the following conclusions seem justified by results to date:

1. That settler relocation is feasible, is needed, and can be accomplished on a perfectly sound economic basis;

2. That settlers from submarginal land areas can, by such projects, be benefited socially and economically without government subsidy;

3. That, with a practical plan of operation, the cooperation of settlers, school and county officials, business men, and farmers can be secured and maintained;

4. That no person or legitimate interest has been injured and taxing units have been definitely benefited.

Reasons for Settler Relocation

Many farmers in the United States live on lands poorly suited to farming. On such land, labor and capital are not efficiently used, with the result that many hard-working, thrifty farm families earn only a very meager living. They can have few of the common comforts of life and, because of their low production, add little to the general welfare of the nation. Most of these farmers are intelligent, industrious, and good average citizens. They simply have been caught by unfavorable circumstances largely beyond their control and are suffering the consequences.

Much good land is now idle or only partially used. If farm families on poor land could be placed on good land, they and everyone else would benefit. Why hasn't something been done about it? We suspect it is because not enough people know the facts and because, until recently, no practical plan of improving such conditions was devised.

The depression of 1929 and subsequent years, which so seriously embarrassed farmers throughout the United States, even on the best land, has brought the greater difficulties of those on poor land to public attention. Now that this condition is known, what can be done about it? The United States, through the Department of Agriculture, is trying to find out, and what is being done in northern Minnesota is discussed

* Project Manager, Farm Security Administration, Baudette, Minnesota.

Any opinions expressed herein are the author's own and are not to be taken as official expression of the Department of Agriculture.

here with the hope that it may throw some light on the subject.

Early in 1934 the Land Policy Section of the Agricultural Adjustment Administration received a grant from the Federal Government authorizing them to undertake a few demonstration projects, to study the problems of retiring submarginal land and reestablishing the settlers from it. A logical site for one such project was northern Minnesota where this problem is acute and the generally unfavorable location and condition of many settlers have long been recognized. A thorough study of social and economic conditions in 14 counties in the cut-over region of northeastern Minnesota had already been made by Dr. O. B. Jesness of the University of Minnesota and Mr. R. I. Nowell of the United States Department of Agriculture.[1]

The area considered in the Jesness and Nowell study includes all northeastern Minnesota from Lake of the Woods, Clearwater, and Beltrami Counties on the west to Crow Wing, Aitkin, and Pine Counties on the south (Map I). The area, about 19,000,000 acres, was originally largely a great forest of coniferous and hardwood timber, but now nearly all the merchantable timber has been removed. When Jesness and Nowell made their study, the area contained about 25,000 farms, ranging from claims with little or no development to well developed, well improved farms.

Principally because of the timber and mining[2] industries, and in a lesser degree because of agricultural development, much of the territory is supplied with good roads, good schools, markets, villages, and cities. In the same area, thousands of settlers are living on poor land with very poor roads and schools, many of them isolated from one another and from needed facilities. The tax burdens of these settlers are very high in relation to their income.

The first activity in most of the area was removal of the timber. During the progress of logging, many people came into the area for employment and later, together with others, settled on government homesteads, or on land purchased from private owners or at state land sales or tax sales. Many settlers selected land with little regard to soil, drainage, cost of development, or location.

Unwise Government Policy

The unwise policy of both Federal and State Governments in allowing and encouraging indiscriminate scattered settlement is now recognized. The assumption behind that policy was that all land was desirable and would be needed for production. So long as that belief prevailed, any person was quite within his rights in acquiring any land he chose and making his home upon it. As a result of this policy and the assumption underlying it, many families have located on isolated tracts and have wasted not only their money and labor for land and improvements but have also wasted many years of their lives in vainly waiting for development of their communities. Private real estate dealers and speculators have been equally at fault in encouraging haphazard settlement.

Other property owners also have helped bear the costs of this unwise policy. During late years, the policy that every resident is entitled to a road to his home and that every child of school age is to be given a free education has been accepted as fair and proper. That policy,

[1] *A Program for Land Use in Northern Minnesota* (Minneapolis: University of Minnesota Press, 1935).

[2] Mining, while a very important industry, and likely to continue for many years, occupies a relatively small proportion of the land, which is much better served with modern facilities than the rest of the area.

applied to this area, has resulted in the better developed communities being required to pay taxes not only for their own needs, but also to provide public services for settlers in poorly developed communities. This makes the problem of indiscriminate settlement of land a matter of vital concern to all.

Evil Consequences of Haphazard Settlement

Decrease of employment in the timber industry and the proximity of seemingly cheap land available on easy terms led very many to attempt to establish themselves as farmers. Many, being timber-minded, selected land for its timber possibilities rather than for its real agricultural value.

Tax Delinquency. Tax delinquency began to be serious about the time the timber was depleted. This naturally limited the income of local government and led to higher tax rates. Since most of the value of timber land is in the timber itself and since most of this land was acquired by companies and by temporary residents for logging purposes, or by settlers who took it largely for the timber on it, taxes were usually paid until the timber was removed. After removal of the timber, most tracts were entirely unproductive, and the owners were consequently unwilling or unable to pay taxes. If they did pay them, it was in the belief that the land eventually would be needed for agriculture.

Spontaneous Depopulation. As stated above, many settlers selected their land in unfavorable locations, without roads, schools, or other community facilities, expecting that the demand for land would soon bring others and then conveniences needed for satisfactory living conditions could be obtained. Since new neighbors did not come, the isolation and hardship they expected to endure only for a short time have continued for years and in some places even become worse. Disappointment, combined with continued low income and increasing age, have discouraged many. Of these, some have abandoned their partly developed farms with no hope of recovering any part of their investment and have gone elsewhere to start over again allowing their homes to be taken by the State for unpaid taxes. This progressive, unplanned depopulation of the poorer localities has naturally added to the difficulties of the settlers remaining. They are more isolated than before, and as tax burdens increased and income declined because of the general depression, it has become constantly harder for them to carry on, and fewer of them paid taxes.

Drainage Overdone. A large proportion of the cut-over area was originally either swamp, or poorly drained upland, impossible to farm until artificially drained. In advance of settlement, extensive drainage systems were constructed in some parts of the area, and the cost assessed against the land. The drainage thus provided was often of little value until additional effort by the land owner made the larger system available, or until land was cleared and broken, so that he had expenses besides his share of the cost of the entire system.

Now construction of some of these drainage systems appears to have been very unwise. If we recall that at that time it was commonly believed all possible crop land would be needed soon, and that all wet land would become productive as soon as it was drained, we can understand why it did not appear unwise to enthusiastic persons then. Much of the brush and swamp land is still unproductive even when drained. When the high expense of drainage was assessed against such land, it could not, in most cases, be paid. The problem of delin-

quent ditch taxes became so serious that in several counties of northern Minnesota it was necessary to create state forests and game preserves to justify the State Government in helping the counties involved to pay interest and principal on maturing ditch bonds. Thus the action of a few people who initiated some unwise drainage undertakings a few years ago has now imposed an added burden upon every taxpayer in the State.

Tax Abatement. Minnesota has permitted a tax situation to develop that is neither fair nor satisfactory to anybody. The State has a law by which delinquent property may be sold for taxes. So long as tax delinquency was small, such property was readily sold, but when tax delinquency increased and property values declined, purchasers became reluctant to buy. For the past 15 years or more, so much cheap land has been available in northeastern Minnesota that much of the tax delinquent land has not been sold. Under the law, land was bid in for the State, while the owner retained the privilege of redemption.

During late years, other tax laws have been passed, allowing boards of county commissioners and the State Tax Commission to grant abatements and allow bargain settlements of delinquent taxes by which the owners of land can offer a given amount to settle all delinquent taxes to date. Some delinquent land has been redeemed in this way and put back on the tax rolls.

This bargain settlement, intended solely for those in distress, has been misused. Many who were able to pay did not do so, but allowed taxes to accumulate, expecting a bargain settlement. This is a misuse of the law, but it is in a measure justified, because in fairness one land owner cannot be expected to pay his taxes in full while others pay less in bargain settlements. At the same time, tax collection officials are not to be blamed. They have done as all creditors do; when they find they cannot collect all that is due them, they consider it wise to accept a part, rather than nothing at all. The system is general throughout the area. In spite of this unfairness, many land owners have patriotically paid their full taxes regularly.

Forfeiture Laws. In more recent years, laws have been passed providing that land on which taxes have been delinquent for five years or more are forfeited to the State subject to resale only when classified as agricultural lands. Actual forfeiture took place for the first time in 1936 and many millions of acres have been forfeited to the State. At present (September 1, 1938) the constitutionality of this forfeiture law has been raised, which leaves the question of ownership uncertain for the time being.

Real Character of the Settlers

To those who are only superficially familiar with conditions in this cut-over area, it may appear that the stability, industry, and character of the settlers must be below average, else they would have made more progress. More thorough knowledge of the facts gives a different point of view.

Most of these settlers, with little or no capital, homesteaded wild land or purchased similar land on contract with only a small down-payment. There were no buildings, usually no roads, no cleared land, and no opportunity for making a living except by getting out timber or working away from the farm. Most of the value derived from harvesting timber available to them was merely wages for the labor performed in cutting the timber and getting it to market.

To develop one of these farms and clear enough land to make a really productive farm unit requires considerable

money and much hard labor. When a settler has to build even crude shelter for himself and live stock, secure a team, live stock, and equipment, and at the same time support a family on land that is not yet ready to produce crops, he has a hard row to hoe. Usually he must spend much of his time working away from his farm to get income to buy the mere necessities of life for his family and farm. He thus has but little time left to devote to clearing land or providing needed buildings or fences on his own farm. Considering these handicaps, one must admire those settlers who have made even a little progress.

In thrift, industry, and independence, these settlers are about equal to average residents of the State. Some, of course, are less desirable, but most of them are honest and intelligent and ask only a fair chance. Their incomes are extremely small but they live with some degree of comfort because they make the most of the advantages they have. They have no rent to pay, they can get fuel for the labor of cutting, they have access to wild fruit and some game. Some have incomes from trapping and many have fair-to-good gardens and some live stock, so that they provide themselves with most of their necessities without money. The small cash cost of such items as flour and a few groceries and clothing is met mostly by sale of berries, wood-products, furs, or by wages for work on the roads or at other jobs open to them.

Farming at best has never been a means of acquiring a fortune quickly and easily. It is an honorable industry at which one may, with industry and thrift, earn an honest and respectable living. If a farmer, in a life time, acquires a good, productive farm, with buildings and equipment, free of debt, he has done better than the average. The above is true on good land, well located. To expect more on poor land, isolated from most conveniences, is expecting the impossible.

A Simplified Solution

About ⅔ of the 19,000,000 acres in this area is swampy, stony, sandy, or so isolated that it is, at least for the present, practically worthless for agriculture. That leaves about 6,000,000 acres that can be developed into good agricultural land. Therefore, it would seem wise to concentrate the population and their agricultural effort on the ⅓ of this land which is best suited to that purpose, allowing the other ⅔ to produce timber or game, conserve moisture, provide recreation, and serve other public uses.

With 6,000,000 acres of suitable land, and but 3,000,000 acres (not all of it good land) now occupied as farms, and probably less than ⅓ of these farms developed sufficiently to be really productive, it is clear that we can concentrate our agriculture on ⅓ of the area of the 14 counties of northeastern Minnesota and still double the agricultural population and multiply production at least six times. This fact overcomes the fear sometimes expressed that retiring our poorer land will handicap agricultural development, or injure other industries. In fact, the direct opposite is true, for agricultural labor and capital will be used on better land, where it will bring better returns, and money, labor and lives will not be squandered in developing and equipping farms in areas where soil and other conditions doom such efforts to failure. Segregation and proper handling of these non-agricultural lands will eliminate much public expense and waste of human effort, and increase ultimate returns to the public.

Two Demonstration Projects Chosen

The Beltrami Island State Forest was recommended as a site for a demonstra-

tion project because it seemed to possess all requirements—namely, it was a sparsely populated area of submarginal land, adjacent to a fairly well developed area of good agricultural land, suitable for resettlement. This particular project was fortunate in that respect. Much good agricultural land near railroads and highways has recently been heavily burned, so that there is plenty of good, cheap land, well located, and easy to clear, that can be used for resettlement.

As then defined, the Beltrami Island Project, containing approximately 400,000 acres, included 13 townships in southwestern Lake of the Woods County and 4⅓ townships in southeastern Roseau County. Later the area was enlarged to include one more township in Lake of the Woods County and 14 townships in northern Beltrami County, within the Red Lake Game Preserve. The Beltrami County addition is mostly swamp land, and nearly all tax delinquent. This brought the area to be depopulated to about 742,000 acres (Map I).

Later Pine Island Project was approved. This added 814,000 acres more to be depopulated. Pine Island lies entirely in Koochiching County (Map I).

Purchases Limited. To accomplish complete depopulation of the submarginal area included within the two projects, it was necessary to buy only a relatively small amount of land. About 1,500,000 acres of land were included in the two submarginal areas in northern Minnesota. A large part of this land was publicly owned at the time the projects were started. Included within the areas were about 75,000 acres of United States public domain that had never been homesteaded and about 1,200,000 acres of land belonging to the State.

To date about 100,000 acres have been purchased by the Government. This includes about 95% of the land occupied by settlers, besides a considerable acreage owned by non-residents. Of the balance of the privately owned land, it is estimated that about 50,000 or 75,000 acres should still be purchased. The remainder is land held by timber companies solely for the timber. This is generally not for sale and, being held by timber companies, is no detriment to the projects. The purchase of land owned by settlers has actually benefited the owners of these timber lands because it has removed some of the hazards.[3]

[3] Judging from past records, these timber lands will be held and taxes paid until the timber has been harvested, then because new timber growth will not equal in value the annual taxes, such land will be allowed to revert to the State for taxes. There is not the same obligation on the part of the Government to purchase these timber lands after the timber is cut that there is to purchase lands owned by individuals who have acquired the land in the hope of making farm homes on them. Purchase of land by the Government in a township and its retirement from agricultural use naturally reduce the value, or one might say, completely confiscate any agricultural value which other lands in the township may have. So it seems to the writer that, when a Government agency starts to buy privately owned land held for agricultural purposes in

(*Footnote 3 continued on page 408*)

Local Support Necessary

A settler relocation project is primarily a human problem. Therefore in all contacts with settlers and other local people, the human and personal interest view must be emphasized and a program built to appeal to them. Experience in resettlement work so far indicates that no plan for a project of this kind is likely to succeed without local cooperation. This implies that a plan must appeal to the hard common sense of settlers, local officials, and leaders of the community.

Attitudes Encountered. A proposal to depopulate these areas completely and assist the inhabitants to establish themselves in better locations on better land was placed before the settlers, local officials, and local business people.

Attitudes of those living in the proposed depopulation area were various. The proposal required considerable explanation. While it was proposed to buy the land from the settlers at a fair price and to help them select and obtain better land in better locations, the intention was not to reimburse them fully for unwise investments nor subsidize the new farms, but to make loans to be repaid in full. Some settlers found it difficult to see that they were not to get something for nothing on the one hand, or that the Government was not confiscating any part of the value of their land on the other. Nearly all of them recognized that they had made little progress where they were and that their locations were poor, and a smaller number knew that their land was inferior. Probably most of those who felt strongly that a better place could be found had already gone. Of those left behind, some felt that any near-by location would not be enough better to pay for the effort of moving and starting anew. Some were too old or in too poor health to do the hard work required to develop a new farm, as they had already learned by experience. Some had recently come into the forest to live cheaply while waiting for better times when they expected to return to former jobs in cities or industrial centers, and meanwhile were "squatting" on land or in buildings to which they had no claim, because of free shelter and fuel and some free food in the way of game or wild fruit. Some dwelt on the idea that they had considerable investment in their land which they hoped would yet be realized when farming generally became normally prosperous again. Some recognized that any possible price for their land would not pay their back taxes and debts, and were willing to go wherever anyone might suggest, if they could borrow enough to make the new start.

Considerable time was spent with state forest rangers who have charge of the State forest land in the area, besides much other territory, and are familiar with practically every section of land in the project areas. They have been in their positions for years and know both the timber business and the immense fire hazards and are acquainted with most of the settlers and with their problems. They favored the proposal and gave freely of their time and information and were of great assistance in working out plans and in helping to carry them out.

County and school officials in the counties involved were consulted and the general plan outlined to them. They were well informed as to conditions and were heartily in favor of the project. Boards of county commissioners unanimously passed strong resolutions endorsing the project and assuring their cooperation. Local business men, both in and near the proposed purchase area,

---

(*Footnote 3 continued from page 407*)
a conservation area, it has some obligation to offer to all property owners a reasonable compensation for their lands in that area.

were interested in the proposal and were quick to see its advantages to the whole area on which they depend for their business. Moreover, many of them owned land or held mortgages on land that might be sold either for conservation or for resettlement, so they had a personal interest as well as a general one. At any rate, they favored the project and as some items of procedure came later into conflict with their personal and business interests at some points, they accepted them rather than seriously delay the project.

Prices for Submarginal Land

The accepted basis for valuing land is its earning power. Since this land has no earning power as agricultural land, it has no agricultural value. It was decided to estimate its value for conservation on the basis of its earning power. The prices established ranged from $1.25 to $3.00 per acre, depending on the ability of the land to produce timber, its location, and the type and amount of tree growth.

Land with improvements on it, of course, could not be purchased on this basis, and besides the improvements were of no value if the area were to be used for conservation purposes. The next step, therefore, was to take into account the approximate annual outlay for roads, schools, relief, and other public services, which in the three counties in the Beltrami Island area amounted to about $25,000 per year more than was received from the area in taxes. If one of the prime objects was to depopulate the area and thus avoid continued inpouring of funds, then it seemed reasonable to pay something for these improvements in order to accomplish depopulation. Capitalizing the estimated savings at 5% would permit a $500,000 investment in depopulation. To date, probably between $200,000 and $250,000 has been paid for improvements which will be offset by present and future savings to taxpaying units.

What Has Become of the Settlers?

At the time these projects were started, about 500 settlers were living in the 1,500,000 acres included within the projects. This means an average of six or seven families per township; however, the families were by no means evenly distributed. Many townships had no settlers. In the townships occupied, the number of settlers varied from 2 to 30 or 40.

To date all but about 25 of the occupied tracts in the two areas have been purchased and most of these settlers have left the forest area. The 25 still remaining will probably eventually sell, but so far have not decided. Of the 475 who have been bought out, about 225 have resettled themselves. Some of these did not want to continue farming and have gone into other occupations. Others, who had considerable equities from the sale of their farms, decided, and were perfectly able, to handle their resettlement problems themselves. Of the remaining 250, 225 have actually been relocated through Government aid, and, of the 25 still to be relocated, some will make their own arrangements and some will need Government assistance.

Grouping Settlers. One of the first facts discovered was that not all settlers on projects of this type can be best served by any one particular type of set-up. As in any other group of 500 families, great variations in ability, adaptability, preference, age, health, past experience, and family units may be found. A type of set-up which may be best for one family may not fit at all for some of the others. A project of this kind does not entail family selection, for the families were already in the submarginal area.

When the land was purchased, these families became clients of the projects and, if the job were to be completed, every type of family had to be provided for. In general, the families may be divided into four groups.

The first group includes those who were entirely competent and financially able to handle their own resetttlement problems and have resettled themselves as and where they chose.

The second group consists of those who were too old to farm or earn a living by hard work, or were otherwise incapacitated so that they were, and were likely to continue to be, more or less dependent on relief. Clearly these people could not handle farms. It was also evident that they could not be left out in the forest by themselves after others were removed. The best plan, therefore, seemed to be to relocate them in or near towns or villages in their respective counties, so that they would have medical assistance and other services when needed, and could be better looked after by relief agencies.

After considering what might be done with this group, it was found that the projects, as originally planned, made no provision for caring for those who could not operate farms, either as full-time farm units or as subsistence homesteads. The problem was discussed with county relief organizations and county commissioners and finally was presented to Mr. L. R. Zimmerman, head of the State Emergency Relief Administration. He showed keen interest and very clear conception of the problem and authorized the project staff to use not more than $600.00 of State Emergency Relief Administration funds in relocating each of these cases.

The plan, as finally decided upon, provides that each case to be set up on a permanent relief basis must first be approved by the county relief organization and the county commissioners and then by the Minnesota Rural Rehabilitation Corporation. When thus approved, the project staff was authorized to acquire land and build a small home or to acquire property with buildings, but in no case was the total cost to exceed $600.00 per unit. The plan further provides that, when the property is acquired and necessary improvements made so the client may have a comfortable home, the property is to be deeded to the county with the understanding that the client shall have the right to live on and use the property as long as he needs it. When each client is thus established, the county relief organization and county commissioners become responsible for the permanent care of the client and his resettlement is accomplished. This seems like a reasonable, humane, and practical method of caring for clients unable to operate a farm or otherwise care for themselves. Many of these clients are now getting old-age assistance and, with their homes thus furnished, they are rather well taken care of for the rest of their lives. Thirty-six cases in this group have been relocated.

The third group includes several families who were young enough and perfectly able to operate farms but were not so inclined. Some people naturally prefer to work out for wages rather than to accept the responsibility and risk of operating a farm of their own. For this group it seemed best to work out a sort of subsistence homestead scheme which would provide each client with a small acreage of land and a comfortable home where a large part of the family living could be produced on the land, but where the principal source of income could be derived from outside employment. In selecting homes for this group,

more attention was given to location than to quality of soil. As there are no large industries in this territory where large numbers of men can be employed regularly, the only available sources of employment are on farms, a small amount of work in towns and villages, and work on the roads for county and State. Thus not a large number of clients of this type could be satisfactorily relocated. Fortunately, not many fell in this group.

The fourth group consists of all those who desire to farm on a full-time basis and are able to do so. They needed financial aid as well as assistance in selecting farms, acquiring title, and working out practical plans for development and operation.

Types of Resettlement

There was at first, and probably still is, a considerable difference of opinion as to the type of set-up to be provided for settlers who plan to continue farming. Some maintain that the proper procedure is for the Government to purchase a block of good, properly located land, divide it into farms, clear a portion of it, erect a very good set of modern buildings on each farm, preferably with electricity and running water. This group also maintains that, where necessary, roads should be built by the Government, schools and community centers established, and a complete community of resettlement clients in a group be provided for. They further hold that development of the farms—that is, the clearing, fencing, and building—should be done by the Government with relief labor and, after the farms are completed, each should be offered to a client on a rental or sale basis. If a client purchases under this highly developed community type of improvement, his investment necessarily will be high.

Very early in the development of this project, it was found that most of the clients to be relocated are rather conservative and decidedly reluctant to go in debt very heavily for their new farms. Another factor to be considered is the condition of the farmers already in the territory where these clients were to be relocated. Most of the farmers have acquired their land in the usual ways and have accomplished on their own initiative a variety of results, ranging from failures or near-failures up to rather well developed, productive farms. The directors of the Minnesota project feel that to place clients from submarginal forest land on good, fully predeveloped farms with modern buildings and equipment involves them in an obligation and a job which many of them are not fitted, either financially or by experience, to handle. The Minnesota group believes that a more modest plan, with less debt for the clients, is preferable.

Minnesota Plan

In working out the Minnesota plan the attitudes and reactions of the people in the area have been given careful consideration. First, it has been assumed that a settler, who has been located on a poor piece of land and has been unable to make satisfactory progress, has lost something of his self-confidence. He has felt that he made a mistake in selecting his land; he is painfully aware that he he has not made a success of his farming operations; and, unless something can be done to build up his confidence and hope, any normal individual is not likely to make very much progress. With these points in view, everything possible has been done to build up the hope and self-confidence required to give each client a grip on himself and enable him to tackle a tough job with the necessary determination and confidence to make good.

The initial step in the process of developing individual confidence was taken in the first contact with the settler for the purchase of his submarginal land. The point was emphasized that the Government and the State were at fault in allowing such poor land to be taken as homestead or purchased for farm purposes. While this does not relieve any individual of his own responsibility in selecting a piece of land, it at least shows him that he is not the only one who has been at fault.

The second step was to adjust taxes and debts in such a way that each client would have some little equity from sale of his property. The position was taken that the Government could not consistently buy land if the proceeds of the sale were all to be used in paying taxes and debts; that the purpose of buying this submarginal land was to help the settler get out from under a difficult situation and to get reestablished elsewhere. Through the efforts of the project staff and the cooperation of creditors and county commissioners, liberal adjustments in taxes and debts were obtained, which in most cases left the client with some little cash equity.

Another step was to show confidence in each client by allowing him to make final selection of his future farm and by consulting with him at every step in working out plans for its development, as well as for buildings, improvements, and equipment. Instead of the client feeling that the Government was doing this thing for him, he felt that the Government was merely helping him to work out a plan satisfactory to him based on sound business principles. He had the final choice of land, the planning of its development, and the planning of buildings and improvements on a basis that seemed feasible to him. He accepted full responsibility for carrying out these plans.

It has been a real inspiration to work with these clients and to find that the majority of them are desperately afraid of debts; that they accept Government assistance in full expectation that every cent is to be repaid; and that they are keenly anxious to make the necessary improvements on their farms and to obtain the necessary equipment at the least possible outlay of cash, thus keeping their net obligations to the Government at a minimum.

Client Gets Title to Land. Believing that most farmers will handle land that they own better than rented land, it was deemed best on these projects to convey title to the client at once. At first, relocation land was purchased in the name of the Minnesota Rural Rehabilitation Corporation, which planned to give a contract for deed. Later this plan was changed and all Corporation lands were conveyed to clients by warranty deed, and purchase-money mortgages taken to cover obligations. Since this change, land purchased for relocation farms is transferred directly from original owner to project client.

Selection of Relocation Farms. With these ideas in view, the Minnesota plan provides for the purchase and development of each farm to fit one particular client, rather than to purchase and develop ready-made farms and later try to find clients to fit the farms. Any suitable land within the relocation area that is offered for sale is listed, then checked by a soils specialist for quality of soil, drainage, etc., and finally appraised by an experienced appraiser. If the land is found suitable as to quality of soil, location, and price, it is listed. Hundreds of tracts were thus listed and checked.

When a client decided that he wanted a farm in a certain locality, he was shown several available tracts and allowed to make his choice. No attempt

was made to locate a large number of clients in any particular community. Each client was given free choice in this respect. Often a client located a piece of land for sale that was not listed in the project office. If the land, after soil check and appraisal, was found to be suitable and was priced right, this was purchased as readily as any listed land. Thus the project had no problem of selling farms; the farms were bought for a specific client after he and his family had decided what tract they wanted.

The Minnesota "Grubstake Plan"

The average cash equity of the clients requiring assistance for relocation through the project office was between $300.00 and $400.00 net from sale of their submarginal lands. In addition to this, many clients had some personal property amounting, on the average, to about $300.00. These figures are averages; actual amounts varied from considerably more than these averages to absolutely nothing. Many land owners were unable to pay taxes and other obligations and have anything left. Others, squatters and renters, owned no property in the submarginal area but, beacused they lived in the area, must be relocated.

To take care of these clients who had little or no equity, without undue risk to the Government or client, the Minnesota "grubstake plan" was worked out. The plan provides, we believe, a practical means of financing a client who has no funds or property and whose only asset is his own labor and experience. It provides that a small farm, usually about 80 acres, will be purchased for him. He will be given a deed to the farm and will in turn give back a purchase-money mortgage for the whole amount. It usually provides for a very small house on the land, a well, and one or two cows. Everything the client is allowed is covered by mortgage. Then he is told that to make this a self-supporting farm unit, there must be modest buildings that will comfortably house his family and live stock, that ½ the land must be cleared and broken ready for crop, that there must be pasture, a well, and other equipment. But he is started merely with the land, a small house, and a couple of cows, with the understanding that just as soon as he can make improvements on the land, he will be allowed to borrow for his living expenses up to 60% of the value of any improvements made.

For example, if he will clear 10 acres of land and it is worth $10.00 per acre to clear, he can borrow $60.00 against the clearing. He will thus have invested $40.00 of his own labor and have that much equity in the place. This same principle of advance applies to all improvements. If he can dig his own well, he can get 60% of the value of the well or if he can build a $400.00 or $600.00 building, he can borrow up to 60% of the value of his contributions toward the improvements.

The basis on which this grubstake idea was worked out is the experience of settlers in northern Minnesota during the past 25 or 30 years. Settlers have, during this time, been able to acquire land either as homesteads or through purchase with a small down-payment. Such lands were usually without improvements and the settler would undertake to acquire his farm and develop it, but these timber farms are entirely unproductive until cleared. The settler with a family to support has found it necessary to work in the woods for wages, get out timber and sell it, or work on the roads or in the harvest fields just to obtain a living for himself and family and in this way has had little

time to devote to developing his own farm. The grubstake plan was conceived for the purpose of enabling the settler to work all the time on his land and, by growing a garden and keeping a couple of cows, he makes his living even though he is paid for only 60% of his effort in developing his own farm. In this way he can live on his land and develop his farm as he develops his experience in farming, and can make much more rapid progress and better use of his improvements than if he has to seek employment off the farm.

It is also felt that the agency financing a farm in this way is relatively safe, provided (1) that each tract of land is carefully checked and is purchased at its real farm value or less; (2) that any improvements made on the farm under the grubstake principle must be in accordance with carefully worked out plans so that no particular items will be overcapitalized. The success of the grubstake plan depends primarily on the client; he and his family must be fully convinced that the plan is practical and workable. They must be so anxious to own their own farm that they are willing to undertake a hard job requiring several years of sustained effort and thrift. This personal willingness to work and save that they may eventually own their own home lessens greatly the risk of the lending agency.

Types of Farms Purchased

Types of farms purchased for resettlement have varied all the way from perfectly wild land with no improvements to partially and even well developed farms. Many clients who had considerable equity were able to purchase partially or wholly developed farms on a basis that made the investment by them and the Government seem relatively safe. Some clients with considerable equity decided they could build up their own farms from wild land as cheaply and more to their liking than they could obtain them partially or fully developed. Clients with little or no equity generally located on farms that required considerable development work so that, by using the grubstake principle, their loans could be kept at a minimum and they could reasonably expect to repay them in full.

All wild land considered for purchase was valued on the basis of its value when cleared, less cost of clearing. Thus, if wild land is offered for sale in a locality where crop land is worth $25.00 per acre and cost of clearing is estimated at $25.00 per acre, the valuation placed on the wild land would be zero. Much wild land in this area that has been heavily burned can be cleared for $10.00 per acre or less and much of it has been bought for between $5.00 and $10.00.

Buildings. Buildings are one of the big items of expense in establishing a farm in this section. There is room for much honest difference of opinion as to the best plan to follow in putting needed buildings on relocation farms. One group may, with plenty of reason, insist on providing carefully drawn plans and specifications before any construction is started, and further insist that skilled mechanics be employed to do the work. Points in favor of such procedure are that better, more convenient, and more attractive buildings are obtained. Another group may think it better for the client to plan his own buildings with the assistance of the project staff and for the client himself to do as much of the building as possible. The advantage of this procedure is the saving in costs to clients whose earnings are low, and as a rule this procedure results in a more satisfied client. It is very difficult for one person to plan a set of buildings that will be entirely satisfactory to another. Buildings provided under this latter plan are

less elaborate than under the first, but are likely to be more in keeping with buildings on other farms in the community. Opinion at the Minnesota projects strongly favors the simpler, less expensive plan of building. The aim has been to get the maximum of comfort, convenience, and satisfaction in relocation homes at a price that the farm can be expected to repay.

Farm Debts

Experience with the farm debt problem in Minnesota shows many farm owners worried, unhappy, and insecure because of debts incurred on account of too optimistic plans for providing buildings or buying land or machinery. With a view to avoiding as far as possible such debts, the building program here has been handled on a very modest basis. Some have called it niggardly. All are in accord with the desire for, and the real desirability of, modern and attractive homes. The only reason for not providing them is that, at present, agriculture in this part of the State is not profitable enough to support them.

To their credit, most clients on this project prefer comfortable homes that they may reasonably hope to own rather than more elaborate ones which they may lose because of excessive overhead. It seems to us a better long-time policy, at least for new settlers, to emphasize the productive features of the farm in the hope that the earning power may be developed sufficiently to provide, eventually, a higher standard of living. As a consequence, the building program has been conducted in very close cooperation with the clients. In fact, they have had the final say in every case. In some cases we feel that results would have been better if more of our suggestions had been followed, but in most instances the clients are better satisfied than if we had insisted on our own preferences.

The policy has been to give every reasonable aid, but to leave final decision to clients. In most cases we feel that 100% and in some cases 200% of value has been secured for money expended in buildings. This is because the clients have furnished much of the labor and material and have had a direct personal interest in keeping costs down.

When options were taken on farms in the submarginal area, a clause in the option reserved to the vendor the right to remove buildings and fences. The reasons for this reservation were that these buildings are a detriment to the forest area as they are likely to be occupied by squatters and result in a school and road problem in the evacuated area. Buildings on these timber farms were generally of cheap construction, many of them log buildings, and had little or no salvage value. If the Government had retained title to these buildings and attempted to wreck them through use of relief labor, it would have cost more than the value of the salvaged material. Thus the Government really benefited by having title to the buildings reserved by the clients. In getting the clients reestablished outside the forest area, the right to remove their buildings and fences has been of material help to many of them.

Buildings and Building Problems

Some local truckers in the area have developed a rather unique, cheap, and effective method of moving buildings. Buildings are moved entire for miles at a very reasonable cost. We have seen several buildings in process of moving by truck that formerly were considered movable only by means of real house-moving equipment. Buildings 18×24 feet or larger, and 1½ or 2 stories high have been moved many miles and over difficult ditch-bank roads.

A well finished frame house 24×24×10 feet was moved 30 miles by plac-

ing two trucks side by side in front, with two trailers behind. A full gambrel roof barn 24×40 feet was moved 10 or 12 miles in the winter time with two trucks in front and two big logging sleighs behind. Small buildings are moved on one truck and one trailer.

Clients' Building Problems

By aiding clients in their plans to make full use of local low-cost materials, very desirable buildings are obtained for them cheaply. Following is an example:

A resettlement client, who was a renter in the forest area and hence had no property to sell, moved out and selected 160 acres of land six miles from Baudette. He was fairly equipped with live stock and machinery. He bought his entirely unimproved farm at $7.50 per acre, or $1,200.00. He had no buildings to move, and was too conservative to assume a large amount of debt. He had a small amount of lumber and planned to build a cheap temporary house. The building supervisor urged him to begin a house that would have some permanent value, and could later be added to or completed. They went to see several buildings under construction. Then he and his wife and the building supervisor worked over plans that seemed best to meet their requirements, and decided upon a bungalow-type house 24×28×10 feet. The client, because of lack of funds, expected to build without a foundation. The supervisor showed him that he and his sons, by doing their own work, could dig a basement and put in forms and, by their own efforts, get a foundation and full cement wall basement for about $75.00 actual cash outlay. With the plans furnished and a little help from a son-in-law who is a fair mechanic (also a client), they built the house. The house, with full cement basement, chimney, shingled roof, sided and painted, has cost to date $410.60. By this method clients get more nearly what they want, do much of the work themselves during slack seasons on the farm, and save at least 50% in costs. It is expected that in two or three years this family will have a home worth $1,200 to $1,500 and it will have cost them less than ½ that amount in actual cash outlay.

Barns, poultry houses, and other outbuildings offer still greater chance for economy than dwellings because less costly finishing work and less skilled labor are required. Much timber, such as dry tamarack, spruce, balsam, and cedar is available; also green timber, such as popple and other hardwoods that are useful for such buildings but have little market value.

Results

Thirty-six relief clients have been moved to comfortable little homes near neighbors, medical aid, and other conveniences, and are assured of a living and place to live. One hundred eighty-nine clients have been relocated on good land, accessible to good roads, schools, and markets, where they have at least an even chance to succeed. A general average of all the farm set-ups is about as follows:

Average size of farms	101 acres
Average crop acres	40 acres
Average total loan	$1,896.00
Average paid on loan	$303.00
Average net loan	$1,593.00

Many years will necessarily elapse before a fair appraisal of results of these projects can be made. Detailed reappraisal of the new farms has not been made to show value of improvements. It is, however, encouraging to note the gradual improvement made on most of the farms, the evident determination of the settlers to make good, and their own confidence that they will succeed.

Tax Receivership:

Five Years of Experience in Chicago

By RUSSELL SHERMAN BERNHARD*

I. The Tax Situation in Chicago Prior to the Illinois Tax Receivership Act

DURING 1928 and 1929 a virtual property-tax moratorium was in effect in Chicago. Tax extensions for those years had been suspended pending the reassessment of property which had been ordered by the State Tax Commission in 1928 and which, after much obstruction and delay, was finally completed in 1930. Postponement of the 1928 and 1929 tax extensions meant therefore that the taxes for *three* years (1928, 1929, and 1930) fell due within a *two*-year period ending May 15, 1932, at a time of extreme economic distress. Assessed valuations had not yet been adjusted to actual deflation levels which followed the collapse of real estate values in 1928 and 1929. These high valuations, combined with high tax rates, made the 1928, 1929, and 1930 tax bills the highest ever extended in Chicago.

One of the results of these conditions was the formation of the Association of Real Estate Taxpayers, organized for the purpose of obtaining some form of relief for hard-pressed property owners. This organization had two main objectives: (1) to force fuller assessment of personal property in Cook County in order to obtain a more equitable distribution of the property tax burden between realty and personalty; and (2) to fund real estate taxes over a longer period. These objectives may have been legitimate enough, but the methods employed had unfortunate results. An active campaign was undertaken to induce real estate owners to withhold tax payments until reform proposals received attention. Distressed property owners, anxious to reduce the burden of taxes as well as to postpone their immediate obligations as long as possible, readily cooperated with this movement to forestall payment of taxes, and the notorious "tax strike" resulted. On January 17, 1933 the total taxes levied for 1928, 1929, and 1930 were 30% uncollected. The 1930 taxes alone were 42% uncollected.

This tax strike was one of the causes of the acute financial difficulties which Chicago faced in the early months of 1933. Among the members of this Association were representatives of numerous large income-producing properties in Chicago, such as hotels and office buildings. The incomes of many of these properties were adequate to pay the taxes levied, but by concerted refusal to pay them, the owners of the various properties hoped to force a reduction of the tax burden on real estate. Public officials were virtually powerless to compel payments by these individuals because, under the law as it then existed, practically the only recourse open to officials was judgment and sale of the tax lien, and few buyers of tax liens could be found.

* Of the Institute of Public Finance, Northwestern University; Research Director, Chicago Citizens' Committee on Tax Collections.

This study is an outgrowth of a larger study of real estate taxation carried on during the past two years under the direction of Dr. Herbert D. Simpson of Northwestern University. In this analysis of the operation of the Illinois tax receivership statute the writer wishes to acknowledge the very helpful cooperation of Professor Earl DeLong of Northwestern University and Mr. John O. Rees, General Attorney, Chicago Park District.

In order to overcome this organized resistance, government officials resorted to two expedients. One was to attempt to dissolve the Association of Real Estate Taxpayers, in the hope that the tax strike would thereby be broken; the other was to devise some new tax-collection weapon which would compel the payment of taxes.

As a result of dissension within the Association and pressure from public officials, the activities of the Association were effectively terminated in February, 1933. The funds in the treasury of the organization were impounded, and an injunction was issued which forever prohibited members of the Association from meeting or conducting activities. At 2 P.M. on February 14, 1933, the date of a scheduled meeting, some 6,000 members gathered before the Coliseum in Chicago, only to face locked doors and nearly 200 police officers. Concerted resistance to the payment of taxes began to weaken from that day.

It was out of the conditions associated with the "tax strike" that the tax receivership legislation evolved. An assistant attorney general of Illinois drafted the tax receivership bill specifically as a weapon against tax strikers. The Democratic organization of Cook County brought every pressure to bear on the Illinois Legislature, and the bill (the so-called Skarda Act) was railroaded through as an emergency measure and approved by Governor Horner on April 28, 1933. No pretense was made that the purpose of the act was other than to break the tax strike. So definite was this intent that to make its position perfectly clear the Legislature included the following emergency clause in the act:

"Whereas, many property owners *who are able to pay their taxes* have taken advantage of the situation and have failed and *refused* to pay the same; and

"Whereas, it is necessary to provide immediately an additional method for collecting taxes from property owners who are able to pay their taxes, but refuse to do so, therefore, an emergency exists and this Act shall take effect on its passage."[1]

II. Summary of the Act

The County Treasurer was authorized to apply to any court of competent jurisdiction to be appointed receiver of the rents, issues, and income of any property on which the taxes were more than six months delinquent. No bond was required of the County Treasurer other than his official bond. The application, in the form of a bill or petition, was required to

"set forth (a) that such taxes remain due and unpaid at the date of filing such bill or petition; (b) that the county collector [the county treasurer is ex officio county collector] has exercised due diligence to collect said taxes; and (c) that he verily believes that collection thereof can be made through a receivership of the rents, issues, and incomes of such real property, and the bill or petition shall be verified and shall be prima facie evidence of the facts therein stated."

The purpose of the receivership was defined as "collecting and satisfying, out of such rents, issues, and income, the taxes upon such real property, together with the penalties, interest and costs, and such costs and expenses of the receivership as may be adjudged by the court." The court was given power to authorize the receiver to pay out of the money collected from the property "such expenses in connection with the maintenance and operation of the property as may be necessary to secure the greatest income from said property for the payment of taxes, penalties, interest and costs due thereon." This procedure was stated to be a remedy in addition

[1] Ill. Rev. Stat. (Smith-Hurd, 1933), c. 120, ¶238c. (Italics are the writer's.)

to all other remedies for collection of delinquent taxes.

III. The Problem of Jurisdiction

Since the act was an emergency measure, it went into effect immediately. The State's Attorney filed all receivership petitions in the County Court, which has broad jurisdiction in tax matters. Judge Edmund Jarecki of the County Court stated frankly, however, when presiding over the first case involving a petition for a tax receiver, that the jurisdiction in tax receivership cases had not been specifically granted to the County Court by statute. A provision of the Illinois Constitution, however, provides in part as follows:

"County courts shall be courts of record and shall have original jurisdiction in all matters of probate, . . . *and in proceedings for the collection of taxes and assessments*, and such other jurisdiction as may be provided for by general law."[2]

On the basis of this provision, Judge Jarecki continued to hear petitions for tax receivers until February, 1934, when an appeal from the County Court involving a tax receivership came before the Supreme Court of Illinois, questioning both the validity of the act and the jurisdiction of the County Court of Cook County.[3]

The decision of the Supreme Court, in the Gage case, was based solely upon the narrow issue of the jurisdiction of the County Court. Other issues, involving the constitutionality of the Skarda Act itself, were not decided. The Court held that:

"The order appointing appellee [as tax receiver] was void because the County Court of Cook County had no jurisdiction to hear the petition and enter the order of appointment.

"It is not necessary to pass upon the other assignments of error."

Thus, the Illinois Supreme Court has never squarely faced the question of the constitutionality of the Illinois tax receivership statute. The only effect of the Gage case was to transfer jurisdiction over tax receivership cases from the County Court to the Circuit Courts of Cook County. In 1935 a revision of the statute restored this jurisdiction to the County Court. Despite these changes in jurisdiction, the act has been in continuous operation since its adoption in 1933, and no further cases have questioned its constitutionality.[4]

IV. Procedure under the Skarda Act

In order to place operation of the tax receivership statute under the County Court, the original Skarda Act was repealed on July 8, 1935, and a much simpler provision was substituted. No change was made, however, in tax receivership procedure. Section 253 of the Revenue Act of 1872 had provided that taxes should be a lien against the property taxed and such lien might be foreclosed in equity after two successive forfeitures. This section was amended to state that the taxes should also be a lien against rents and profits and that the lien should be enforceable after six months' delinquency by intervening petition in any pending suit, including tax sale procedure, having jurisdiction of

[2] Constitution of Illinois, Art. VI, § 18. (Italics are the writer's.)

[3] *Gage v. McDonough*, County Court of Cook County, No. 22370; and *McDonough v. Gage*, 357 Ill. 466 (1934).

[4] The issues in the Gage case involving the constitutionality of the Illinois Tax Receivership Act were confined to alleged violations of the due process clauses of the Federal and State Constitutions. The allegations were that no proper notification to parties to the suit was provided and that the tax lien did not extend to the rents and income of the property. Subsequently, both these issues were easily eliminated by legislation. Since that time five years have elapsed and thousands of tax receivership cases have been filed, but no issue has again been made of the question of constitutionality despite the fact that the Supreme Court did not commit itself on the matter.

the land. Thus the problems faced in the Gage case in regard to lien, parties defendant, and notice are now all provided for by the substitute amendment. The County Court has again taken complete charge of the administration of this act since July 8, 1935.

The procedure for applying the Illinois tax receivership statute has been reduced to a definite process consisting usually of 10 successive steps, each of which is accompanied by a special printed form. The first steps in commencing a tax receivership suit are performed by the County Treasurer, while all succeeding actions are conducted by the State's Attorney.

In chronological order, the steps of a tax receivership action are as follows:

1. A Tax Search Made by the County Treasurer shows the full amount of taxes, amount paid, amount due, and objections, if any, which have been filed to the taxes.

2. Investigation for the County Treasurer's Office is made to ascertain the name of the owner of the property, location of the property, nature of the improvements, etc. A search is made in the County Recorder's office from the tract indices to show the owner and whether any suit is pending in any of the courts of Cook County wherein a receiver may have been appointed.[5] The information at this point, if the unpaid taxes and the character of the property warrant legal action, is turned over by the County Treasurer to the State's Attorney.

3. Petition for Appointment of a Tax Receiver is filed by the State's Attorney in the County Court and consists of two main parts: (1) a legal description of the property and a complete analysis of the delinquent taxes; and (2) the petition asking that the County Treasurer be appointed receiver and requesting that certain powers be granted the receiver by the Court to facilitate ultimate collection of the delinquent taxes.

4. A Summons is turned over to the sheriff and served upon the owner of the property or the parties in possession, such as tenants, agents, etc.

5. Notice, which is issued by the State's Attorney, indicates the time when the case will be heard before the County Judge and states that a motion will be made for the court to enter an order appointing a tax receiver. In actual practice, however, when the State's Attorney appears before the court, he asks either for a receiver *or a payment on account.* If a payment is made, the case is continued for 30 days. The number of these continuances in any case presumably is unlimited.

6. The Order Appointing the Tax Receiver contains all requests found in the State's Attorney's petition for appointment of a tax receiver and is signed by the County Judge. At this point the County Treasurer again enters the case as receiver.

7. The Notice to Owner, Tenants, or Agents, signed by the County Treasurer, states that he has been appointed as receiver of the property and

"that all rents, issues, and income from the aforesaid premises are to be paid to me or my duly authorized agent who will make demand of you within the next few days for all original leases and copies, all books of record and all other records pertaining to said premises, together with all keys and

[5] If the investigation for the County Treasurer's office discloses that the property is already in receivership, the State's Attorney is notified to that effect. The State's Attorney will then file an "Information" in the court having jurisdiction over the equity receivership. This "Information" gives a full description of the delinquency situation of the property, states that there is a definite sum of money in the hands of the court derived from rent, revenue, or income from the property and requests that the money be turned over to the County Treasurer to satisfy the tax claim, which, under the laws of Illinois, is prior to all other claims.

other effects necessary for the management of said premises."

Usually the owner is served first with this notice, if he can be readily located.

8. The Report of the Investigator for the County Treasurer, after his appointment as receiver, covers specific information in regard to the character of the property, number of units occupied, number of units vacant, size of units, monthly rental per unit, text of leases and contracts, number of employees, etc. In the light of these facts the County Treasurer can decide whether it is worth while to appoint an agent to manage the property.

9. The Monthly Report of the Receiver's Agent contains a detailed rent statement, listing all tenants, together with payments and balances due from each; a detailed statement of disbursements, stating payee, purpose, and amount; and a detailed statement of unpaid bills. A summary sheet gives sundry information, such as the original amount of the tax delinquency, amount applied to taxes by the agent, present status of the tax delinquency, monthly income of the property, and cash on hand.

The agent's commission for managing the property is 6% of his total collections.

10. An Order Dismissing the Tax Receiver is issued by the court upon payment in full of all delinquent general property taxes.

V. Application and Results of the Illinois Tax Receivership Act

The changes in jurisdiction which were described in Section III above provide three convenient periods into which, for the purposes of more precise analysis, the five years of experience under the Act can be divided.

A. Jurisdiction of the County Court—April, 1933 to February, 1934

From April 28, 1933, when the Act became effective, to November 15, 1933, 11,988 petitions were filed in the County Court by the State's Attorney asking for appointment of the County Treasurer as receiver for delinquent properties. In 2,904 of these cases the appointment was made, but on November 15, 1933 only 820 properties were actually under management of the County Treasurer.[6] However, the number of cases in actual receivership is not necessarily a measure of the effectiveness of the Act. The mere *threat* of imposing a tax receiver was itself a stimulant to the payment of delinquent taxes, and these payments made to avoid tax receiverships undoubtedly exceeded the payments made by receivers actually appointed. Efforts have been made to measure the effectiveness of the Tax Receivership Act by adding the tax payments made by tax receivers to the estimated payments made to avoid receiverships—the total presumably being indicative of the effectiveness of the Act; but the accuracy of the estimates is questionable.

The County Treasurer compiled and published figures which compared the results of actual collections by agents with the amounts presumably paid as a result of the threat for the period from April 28, 1933 to August 10, 1933, at which time 681 properties were under his management. He stated that, while only $105,041 was collected from the properties under his management, $17,000,000 was paid by property owners to avoid appointment of a tax receiver. He further stated that without the Skarda Act only $1,000,000 would have been paid on delinquent taxes instead of $17,000,000.

This claim must be modified, however, in the light of later information received

[6] See DeLong and O'Brien, "Tax Receiverships," 3 *Law and Contemporary Problems* 382 at 395 (June, 1936).

from the County Treasurer's office comparing the 141 days preceding passage of the Skarda Act and the 141 days subsequent to its passage.[7] The total collection of delinquent taxes for the levies of 1928, 1929 and 1930 amounted to $16,868,014.83 during the 141 days (December 8, 1932 to April 27, 1933) preceding passage of the Act, while total collections for the same levies amounted to $23,786,789.20 for the 141 days (April 28, 1933 to September 15, 1933) following passage of the Act. Thus, the most that can be claimed is that an increase of 40% in the collection of delinquent taxes occurred when a period following the passage of the Skarda Act was compared with a period of equal length preceding it. When the County Treasurer stated that $16,000,000, out of a total of $17,000,000 was paid on delinquent taxes to avoid receiverships during the first four months of the Act, he was greatly overestimating the effect of the Act. On the basis of the 40% increase indicated, the most that the County Treasurer could reasonably have claimed as due to the Tax Receivership Act would have been $5,000,000, the other $12,000,000 presumably having been paid regardless of the Act.

Even so, a 40% increase in the collection of delinquent taxes is a significant amount. If this increase could be directly attributed to the influence of the Skarda Act, it would be remarkable evidence of the effectiveness of tax receivership legislation. But several unusual circumstances, which during this same period were influential in increasing the payment of delinquent taxes, were overlooked. The influence of three such factors—the "tax strike," the Home Owners' Loan Corporation, and the general upturn in business activity—casts serious doubt on the extent to which improvement in delinquent tax collections after the spring of 1933 can be attributed to the Skarda Act.

1. The "Tax Strike." The formation of the Association of Real Estate Taxpayers and promotion of the tax strike by the Association have already been discussed. But the important relationship between these events and the collection of taxes under the Tax Receivership Act was not indicated.

On February 14, 1933 a permanent injunction, issued by the Circuit Court of Cook County, ended the career of the Association. Two months later the Legislature passed the tax receivership bill. The tax strikers had hoped to the last that the Legislature would do something to relieve their burden. But the apparently antagonistic attitude of that body, the dissolution of their Association, and the accumulating penalties and costs resulting from prolonged delinquency were sufficient to make the taxpayers realize the futility of continued resistance.

The $6,918,000 increase in delinquent tax payments during the five months following passage of the Skarda Act probably is attributable, to a large extent, to the resumption of tax payments by property owners who had previously participated in the tax strike. Those real estate owners who, because of financial reverses and the general collapse of rents in Chicago, were unable to pay the taxes on their properties during 1931, 1932, and 1933 could not be expected suddenly to find a source of income out of which to pay the taxes and thereby avoid a tax receiver. The meager return of $105,041 that the County Treasurer recovered from the 681 properties under his control during the period from April 28, 1933 to August 10, 1933 is direct evidence of this fact. That the tax receivership, as a threat, did prove to be an effective weapon in breaking the tax strike can be conceded, but its success

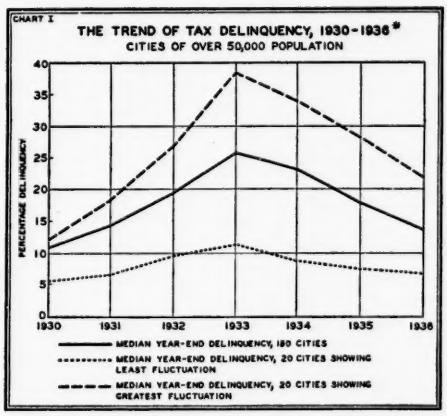
[7] *Ibid.*

as a general tax collection device has not been demonstrated by any statistics of taxes collected.

2. The HOLC and the Skarda Act. A second influence operating to increase payments on delinquent taxes during the first several months after adoption of the Skarda Act was the enactment of the Home Owners' Loan Act, on June 13, 1933, 40 days after adoption of the Skarda Act. The HOLC was authorized to aid home owners by making cash advances for the payment of taxes and by refinancing mortgages. Tax loans were to be at the rate of at least 5% per annum and mortgage loans at 6% per annum.

The importance of these loans can be appreciated when it is realized that the interest rate charged on delinquent taxes was 1% per month during the first year and 10% per year thereafter. Consequently, if a home owner in financial straits could get an HOLC tax loan or mortgage loan and use the proceeds to pay his delinquent taxes, a considerable annual saving could be effected. How much of the HOLC money was actually used either directly or indirectly to pay taxes in Chicago is not known, but a significant repercussion of the HOLC loans undoubtedly was felt in local tax collections during the summer and fall of 1933.

3. Business Activity and the Trend of Delinquent Taxes. The general upturn in business activity beginning in the spring of 1933 had a beneficial effect on real estate income. A continuous, although slow, increase in rents and a continuous decline in vacancies have taken place since that date. Naturally, many real estate owners quickly applied this additional income to payment of delinquent taxes to avoid further accumulation of the rapidly mounting penalties. From the end of the fiscal year 1933 (June 30, 1933) onward, the tax delinquency situation in the nation has continuously improved. Chart I shows the median year-end delinquency for the 150 largest cities in the United States. While it does not directly indicate the status of accumulated delinquency, it does illustrate the decrease in the amount of taxes that became delinquent each year since 1933.



* Frederick L. Bird, *Trend of Tax Delinquency, 1930–1936* (Dun & Bradstreet, 1937).

Although statistics indicating the trend of accumulated tax delinquency since 1933 are not available, it is reasonable to conclude that the curve of accumulated tax delinquency would be quite similar to that of year-end tax delinquency; for, generally speaking, people do not pay current property taxes without giving some consideration to back taxes. Chart I indicates that in those cities which suffered most because of tax delinquency, as well as those which suffered least, the turning point in the delinquent tax situation occurred toward the end of the fiscal year 1933. Naturally, Chicago must have participated in this general nation-wide reversal of the trend, and this reversal presumably played an important role in the improvement in the Chicago situation following the spring of 1933. By coincidence, the Skarda Act happened to become effective during the same

period when this reversal of trend was occurring.

B. Jurisdiction of the Circuit Court—February, 1934 to August, 1935

After the County Court was denied jurisdiction of tax receivership cases by the Illinois Supreme Court,[8] all active and pending cases were transferred to the Circuit Court. From June 25, 1934, when the cases were transferred, until August 1, 1935, when jurisdiction was restored to the County Court under the revised act, a total of 9,379 cases came under jurisdiction of the Circuit Court.

Following the lines of the analysis set forth in the study by Dr. DeLong and Assistant State's Attorney O'Brien, these 9,379 cases can be divided into four classes: (1) approximately 4,600 cases which were dismissed when the owners agreed to accept a plan of paying up the taxes in full; (2) 1,500 cases in which the owners were postponing action on their cases from month to month by making average monthly payments of between $150 and $200; (3) 700 cases which were under management of the County Treasurer as tax receiver; and (4) the remaining 2,500 cases which were never concluded because the property was already in federal receivership under Section 77B of the Bankruptcy Act or else because the property was in such poor condition that it could not possibly produce sufficient net income to warrant appointment of a tax receiver.

Valid conclusions as to the effectiveness of the Tax Receivership Act can be drawn only after a careful examination of the experience within each of these four categories.

1. Cases Dismissed on Promise of Owner to Pay in Full. If the threat of imposing a tax receiver was responsible for the fact that in 50% of the cases the owners agreed to pay their taxes in full, the Skarda Act has been successful. However, it is very doubtful that the Skarda Act can be considered responsible for obtaining these agreements. For, on July 19, 1935, a very generous plan for refunding the delinquent taxes of Chicago real estate owners was passed by the Illinois Legislature.[9] This act provided that all interest, forfeitures, delinquencies, and penalties would be waived on delinquent properties. In lieu thereof, the owner would agree to pay all his taxes in 14 semi-annual payments plus interest at 6% on the total amount of taxes remaining unpaid. The penalty for failure to meet the payments was sale of the property as provided in the plan. Previous to this offer, the accumulated penalties per property averaged about 24% of the total accumulated delinquency, and interest continued at 1% per month the first year and 10% per year thereafter. Thus, a reduction of 24% in principal and 4% to 6% per year in interest was offered to delinquent taxpayers. Naturally, the plan was eagerly accepted by those who were anxious to relieve the mounting penalties and costs of delinquent taxes.

In 1936, however, Section 374 was declared unconstitutional by the Supreme Court of Illinois.[10] Consequently, all agreements made pursuant to that section of the Revenue Act were invalid. But another provision, Section 177, enacted July 10, 1935, permits the County Collector to waive 50% of the accrued interest and penalties for the taxes of 1928, 1929, 1930, 1931, and 1932 in those cases where the taxpayer offers an affidavit stating that his inability to pay the taxes for those years was attributable to the general depression.

[8] Gage case, *op. cit.*

[9] Ill. Rev. Stat. (Cahill, 1935), c. 120, §374.

[10] *People ex rel Clarke v. Jarecki*, 363 Ill. 180, 1 N.E. (2d) 855; *Baum v. Gill*, 363 Ill. 291, 2 N.E. (2d) 74.

This provision, although not as generous as Section 374, does permit the taxpayer to save an amount equal to 26% of the 1928 tax bill, 21% of the 1929 bill, 16% of the 1930 bill, 11% of the 1931 bill, and 6% of the 1932 bill. Many taxpayers who originally agreed to settle their taxes under Section 374 shifted to the offer in Section 177 when Section 374 was declared unconstitutional. The Supreme Court of Illinois, in a decision handed down in December, 1937, has presumably legalized the compromise offer in Section 177, despite its similarity to Section 374.[11]

Thus, of the 4,600 cases under the Skarda Act that agreed to accept a plan to pay up their taxes in full, a large majority, including insurance and investment companies, did so because of the generosity of the compromise offers. Furthermore, had there been no Skarda Act, it is reasonable to assume that most of these taxpayers would have eagerly accepted a plan of this kind which permitted so significant a saving.

2. Cases Postponing Action by Monthly Payments. Under the practice of the court which permits a continuation of the case for one month when a cash payment is made, 1,500 real estate owners are indefinitely postponing action on their cases by making payments of $150 to $200 per month. Since the number of continuances that can be had in any one case is not limited, many owners have been deferring action for several years. That is to say, these properties are actually paying an annual tax bill of $1,800 to $2,400 per year regardless of what their legal tax liability may be. The estimated capitalized value of a property paying a tax bill of $2,500 per year approximates $75,000. Actually, the properties which are making these monthly payments of $150 to $200 are mostly large hotel, business, and apartment properties with an average actual value far in excess of $75,000 and with an average annual tax bill far in excess of $2,500 per year. In other words, the actual operation of the Skarda Act has created a legal loophole by which many of the city's most valuable properties are escaping indefinitely their just share of the tax burden.

If this system of postponing further action against the property, as long as the monthly payments are made, is continued indefinitely, there is little prospect of ever receiving from these properties even the annual current levies, much less the accumulated delinquent taxes. Although the payment of $1,800 to $2,400 per year may appear to be a significant amount, actually on most of the large properties concerned the monthly payments are hardly covering current taxes—much less cleaning up accumulated delinquent taxes. At the interest rate of 10% per year (which is the rate charged on delinquent taxes), an accumulated delinquency for 1928, 1929, 1930, 1931, and 1932 amounting to $18,000 (a conservative estimate of the average delinquency of the larger properties) would incur interest charges of $1,800 per year—an amount equal to the sum of the 12 monthly payments of $150 per month. Thus, in many cases, the monthly payments do not decrease the accumulated delinquency one dollar.

In substantiation of these delinquency figures is a report released by the County Treasurer, which reveals that 40% of the total accumulated delinquency is attributable to large properties paying a tax bill of over $1,000 per year. There are less than 6,000 of these large properties out of a total number of taxable properties running well over 1,000,000. With this present arrangement, at least 1,500 of these 6,000 properties never will

[11] *Brown v. Jacobs*, 367 Ill. 545, 2 N.E. (2d) 10.

clean up this delinquency because of their ability continuously to postpone further action by making these "token" payments of $150 to $200 per month.

3. Cases under the Management of the Tax Receiver. A study made of a random selection of 100 out of the 700 properties where tax receiverships were actually operative during the 18-months' period from July, 1933 to January, 1935 discloses some enlightening facts concerning operation of the Skarda Act.

The accumulated tax levies on the 100 properties for the five years, 1928 through 1932, amounted to $1,443,000. Previous to appointment of the receiver, payments totaling $210,000 were made on these delinquent taxes. But 24.22% of the payments was applied to penalties accrued on the properties and the remaining 75.78% was applied directly to the delinquency. Therefore, at the time of the receiver's appointment, $1,284,000 was due in delinquent taxes.

A summary of the receiver's reports on these properties shows that during the 18-months' period under consideration $358,617 was paid over to the County Treasurer out of the income of these properties, to be applied against delinquent taxes. But a portion of this $358,000 was credited against accrued penalties by the County Treasurer. The exact amount so credited is not ascertainable, but if the same ratio is applied that was found to exist in previous payments (i.e., 24.22% applied to penalties and 75.78% to the delinquency), the result is that $271,760 was applied against an accumulated delinquency of $1,284,000. This amounts to a 21% decrease in the amount of delinquent taxes —a decrease at the rate of 14% per year. At that rate, delinquent taxes could be cleaned up in 7½ years. But the rate of 14% per year could not be maintained. Each year the better-paying properties, those whose annual rate of payment on delinquent taxes is 40%, 50%, and even 60%, are removed from the delinquent tax rolls, and the rate of payment on delinquent taxes for the entire group diminishes. At the other extreme are properties whose annual rate of retiring delinquent taxes is 10%, 5%, 0% or even a minus quantity (where new delinquencies are mounting faster than old ones are being retired). These properties show no prospect of ever leaving the delinquent tax rolls while under tax receiverships. The actual time required to clear up most of the delinquency on these 100 properties under the management of the County Treasurer would be closer to 12 or 15 years than 7½. In fact, it is not unlikely that a large percentage of the accumulated delinquent taxes can never be recovered.

Regardless of what the exact figures may be, the implication is obvious. If the system of tax receiverships is to be continued as a means of collecting delinquent taxes, a large number of properties will be under complete control of the County Treasurer for the next decade.

During the same period that *$358,000* was paid on delinquent taxes out of the incomes of these 100 properties, *$132,641* was paid as fees to the agents and auditors who were managing these properties for the County Treasurer. *Thus, the average cost of operating these receiverships amounted to 37% of the total amount applied to delinquent taxes.* The fees paid to the receiver's agent are not contingent upon the amount of taxes he recovers for the County. Instead, his fee is fixed as 6% *of the gross receipts* from the property. Consequently, while he is encouraged to increase the gross receipts of the property, he is under no pressure to keep down expenses. His ability to spend money and the direction the

spending takes frequently must provide additional, although extra-legal, revenue over and above the stipulated 6%. The auditor who comes in once a month to make a cursory statement of income and expenditures receives an average of $26.68 per month for his report.

The following are enlightening illustrations of the operation of tax receiverships on several important Chicago office building and hotel properties:

1. Case No. 34c-12927, a 12-story office building in the center of the Chicago loop district. From August, 1934 to February, 1935 the receiver's agent paid $10.16 on taxes, while he and the auditor received $1,223.68 in fees.

2. Case No. B-268364, a popular hotel on North Michigan Avenue, Chicago. From June, 1933 to December, 1935 the receiver's agent paid $88,578 on delinquent taxes while he and the auditor received $41,781 in fees. The total delinquent taxes on the property amounted to only $97,475, which was $32,882 less than was paid out as taxes and fees.

3. Case No. B-268483, an important hotel on the South Shore Drive of Chicago. From June, 1933 to December, 1935 the agent paid $29,150 on delinquent taxes, while he and the auditor received $19,251 in fees. The delinquent taxes amount to $127,501. This property could provide the agent and the auditor a nice living for years to come!

4. Case No. 34c-9058, another large South Side hotel. From July, 1933 to December, 1935 the agent paid $10,017 on delinquent taxes, while he and the auditor received $12,433 in fees. The total taxes due amounted to only $31,822. In other words, only 35% of the taxes have been paid; whereas if the amount withdrawn as fees had been applied to taxes also, 70% of the taxes would have been paid.

5. Case No. 34c-8730, a four-story office building in the loop. From June, 1933 to February, 1935, $424.59 was paid on a total delinquent tax balance of $16,639.05. Agent's and auditor's fees totaled $540, or 127% of the amount paid on taxes.

6. Case No. 34c-8736, a garage on the near North Side of Chicago. Accumulated delinquent taxes amounted to $18,787.66 on January 1, 1935. From June, 1933 to January, 1935 only $500 had been applied to taxes by the agent. During the same period the auditor and agent together received $1,769.80 in fees.

7. Case No. 34c-8664, a 30-apartment building on the North Side of Chicago. From June, 1933 to January, 1935, $3,090 was paid on a total tax delinquency of $12,410.27. During the same period the agent received $1,292 as 6% of gross receipts and also received a free apartment.

8. Case No. 34c-8649, a building of 65 furnished apartments on the North Side of Chicago. Accumulated delinquent taxes amounted to $20,884. From June, 1933 to February, 1935, $3,171 was paid on taxes. During the same period, $2,155 was paid to the agent and auditor as fees.

9. Case No. 34c-8792, a business property on West Madison Street, Chicago. Delinquent taxes amounted to $7,110. From June, 1933 to July, 1935, $1,374 was paid on the taxes. During the same period the agent and auditor received $1,575.

10. Case No. 34c-11642, a 42-apartment building on the South Side of Chicago. Accumulated delinquent taxes amounted to $11,842. From June, 1933 to February, 1935, $2,500 was paid on taxes, while $1,511 was paid as agent's and auditor's fees.

These are but 10 instances selected from the random sample of 100 out of a

total of 700. Many more cases could have been cited, but these 10 are sufficiently illustrative of what does occur on many important properties under tax receiverships.

There is no implication that illegal or fraudulent practices have given rise to these large fees received by the agents and auditors. Their fees are provided for by statute. But that they should receive such fees for the relatively insignificant tax returns they show is the point at which criticism is directed here.

4. Cases Never Concluded. Probably the majority of the cases in this group were dropped after a preliminary investigation of the property indicated that the building produced little or no income and showed small possibility of improvement. In many instances the buildings were not earning actual operating expenses. Only such essential costs as heat, light, water, and janitor service were covered by the rents. Actually these buildings were being operated to a considerable extent out of capital, since adequate repairs and maintenance were totally ignored. Any effort on the part of the County Treasurer to extract taxes from these properties would have been futile.

The other important group of cases never concluded were those under jurisdiction of the federal court because of a reorganization proceeding under Section 77B of the Bankruptcy Act. For in many cases, when properties were threatened with a tax receiver, the property owners retaliated by requesting an equity receiver in the federal court to escape action by the State. Other properties, in many instances, were already in the federal court prior to the receivership action. Since the federal court has prior jurisdiction over these properties, the state courts could not also assume jurisdiction of the property to appoint a tax receiver under the Skarda Act. Consequently, as far as any forceful action was concerned, the State authorities were powerless. The tax lien is prior to all other liens on property, and the federal court is theoretically obligated to pay delinquent taxes before any other lien is met. But the extent to which this rule is followed by the federal court is difficult to determine.

C. Jurisdiction of County Court—July, 1935 to Present

The jurisdiction of tax receivership cases in Cook County was restored to the County Court on July 8, 1935. Although jurisdiction of the Circuit Court still exists over cases which were under its jurisdiction on July 8, 1935, all new receivership actions under the revised act have been brought in the County Court.

From July 8, 1935 to October 15, 1937, two years and three months of operation under the revised act, a total of only 813 new receivership actions has been instituted. Of that number, only 21 have resulted in actual management of the property by the receiver for a period of at least two months. Statistics of operation for the properties during this third period read very much like the statistics of the properties entering the receivership status under the Circuit Court during the second period. For instance, the median annual payment for 19 of these 21 properties amounts to 15% of the total delinquency. However, not all this 15% is applied directly to the delinquent tax account; a certain percentage is credited against accrued penalties. If the same ratio is applied here that was used in previous calculations (24.22% of total taxes paid being applied to penalties), the result is a median figure of 12%, as the annual decrease in the accumulated delinquency.

This means that the median case would require 8½ years to pay off its accumulated taxes. But the median does not fully portray the situation. The following frequency distribution gives a more accurate picture of the number of years necessary to clear up the delinquent taxes on these 19 properties under tax receivers, if the same rate is maintained on each that existed when the study was made:

Years	Number of Properties
Under 4	2
4 to 8	7
8 to 12	2
12 to 16	4
16 and over	4
	19

The actual amount of money from these 19 properties applied to delinquent taxes during this period amounted to only $17,862. The agents' fees (not including the auditor) amounted to $3,014, or an average of $22 per month per property. These figures are small when compared to those for the 700 properties which passed into tax receivership during the second period. But this can be explained by the difference in the sizes of the properties involved during the two periods. In the first and second periods, action was taken against office buildings, hotels, and other large income-producing properties, while during the third period only small properties were put into tax receiverships. The average gross receipts for 19 of the 21 properties on which receivers were appointed during the third period amounted to only $316 per month. The typical property is the six-apartment building with average monthly rentals of around $50 per flat per month.

The Illinois Tax Receivership Act, in its present application against these small properties, seems to have deviated a long way from its original purpose of breaking the taxpayers' strike in 1933, and its success in clearing up the delinquent tax situation appears to vary inversely with the extent of its deviation from this original purpose.

Conclusion

In conclusion, we may summarize the general results of this study somewhat as follows:

In the first place, the increase in tax collections during the few months following adoption of the Tax Receivership Act, as compared with a similar preceding period, led to an entirely unjustified optimism on the part of collection officials. Any reasonable appraisal of collateral influences at the time should have enabled them to avoid this misinterpretation. Among these collateral factors were the collapse of the organized "tax strike"—which occurred two months before the adoption of the Tax Receivership Act and which had actually been in process of disintegration for a considerable period prior to that time—the operations of the HOLC in enabling home owners to clear up delinquent taxes, and the improvement in real estate sentiment resulting in improved tax collections throughout the country. No one can say what induces, or enables particular property owners to pay their taxes at a particular time, but such general evidence as is available suggests that these contemporary factors were the chief influences in improved collections at this time.

In the second place, the facts disclosed in this investigation appear to demonstrate with surprising clearness that the actual results of the tax receivership device in Chicago fall into three distinct categories, corresponding to three fairly distinct classes of property.

1. Large numbers of properties have

been found to be so run down, poorly situated, overcapitalized, or otherwise handicapped that no management, under any conditions at present conceivable, can possibly secure adequate income from them; and appointment of a receiver has been considered useless. With this class of property the results of course are nil.

2. In the case of a considerable number of properties—in the main, smaller properties or properties with moderate incomes—receivers have been appointed and have operated the properties. But on these properties the annual payments for agents' and auditors' fees have averaged 37% of the amounts paid on delinquent taxes—surely an exorbitant collection charge. Moreover, the amounts applied to delinquent payments have been so small that we have computed that it will take from 10 to 15 years under this receivership management to clear up the delinquent taxes—even assuming that all goes well in the meantime.

3. In the case of the larger properties —some of them with substantial incomes—the chief result of the tax receivership procedure has been the acceptance of the so-called "monthly payment" plans, under which the property owner agrees to make monthly payments of $150 to $200. With most of these properties these payments scarcely more than cover the annual interest charge on taxes already delinquent. Yet agreement to one of these monthly payment plans appears to postpone any further action against the properties indefinitely.

The tax receivership device was adopted for the purpose of straightening out and shortening the channel of tax collections and speeding its flow. On the basis of the facts above, the conclusion would seem to be inescapable that its actual effect has only been to create another "pocket" into which the stream of normal tax collection processes can be diverted, there to stagnate indefinitely.

II. Obsolescence of Public Utility Property*

By C. EMERY TROXEL†

IN THE first installment of this article the nature and measurement of obsolescence were discussed and the desirable regulatory practice concerning obsolete utility property was summarized. It remains now to discover, by analyzing court decisions and commission opinions, how obsolescence actually has been treated by regulatory bodies.

Court and Commission Opinions

Usually courts and commissions have given obsolescence only scant attention; commonly it is treated collectively with other types of depreciation because isolation of obsolescence is admittedly difficult. Conclusions on several problems attaching to obsolescence are often notably dissimilar, especially among state commissions. Because the Supreme Court has examined treatment of obsolescence of utility property in but a few cases,[20] examination must be made largely of commission opinions. In so far as the opinions are amenable to the division, this information will be presented under these headings: (1) inclusion of obsolete property in the rate-base, (2) allowance for obsolescence in accrued depreciation, (3) amortization of remaining investment in obsolete equipment and recognition of the advantages to customers of new techniques, (4) company subterfuges which are used because of fear of orders resulting in an investor's loss, and (5) occasional orders to employ improved techniques. An appraisal of commission and court policy will be woven into this summary of decisions. No attempt will be made, of course, to survey opinions on the broader and frequently treated problem of depreciation.

Before regulatory problems are presented, a brief resumé will be given of the concept or definition of obsolescence used by courts and commissions. The Ohio Commission has observed that[21]

"The advance of an art is constantly making effective the element of obsolescence and such element does not assert itself at a given instant, but develops gradually in proportion to the advance of the art."

Similarly the Montana Commission concludes that obsolescence exists[22]

" . . . where patents, new processes, contracts for cheaper power, or other progressive features are introduced. . . . "

The New York Commission in dealing with a street railway company even more lucidly concludes that[23]

"If there were no other passenger car which could be operated at less expense, consuming less power, capable of greater speed, or more desirable for any reason, these cars [existing equipment] would have a much larger value than they actually have; but the moment another car is designed . . . which can be operated at a lower total cost, that fact apart from all other considerations necessarily affects the value of the old car. . . . "

Even though many commissions have not troubled to express their concepts of obsolescence and although there has

* For Part I of this article see 14 *Journal of Land & Public Utility Economics* 266–72 (August, 1938). Footnotes are numbered consecutively with those in the first installment.

† Assistant Professor of Economics, Wayne University.

[20] *Kansas City Sou. Ry. Co. v. U.S.*, 231 U.S. 423 (1913); *Pacific Gas & Elect. Co. v. San Francisco*, 265 U.S. 403 (1924); *Los Angeles Gas Co. v. Cal. R.R. Com.*, 289 U.S. 287 (1933).

[21] *Re Cambridge Home Tel. Co.*, P.U.R. 1930 E 65 at 76; see also *Re Ohio Bell Tel. Co.* (Ohio), 2 P.U.R. (N.S.) 113 (1934).

[22] *Re Great Falls Gas Co.*, P.U.R. 1928 E 803 at 828.

[23] *Re Yonkers R.R. Co.*, 9 P.U.R. (N.S.) 337 at 352 (1935).

been occasional difficulty, indeed inaccuracy,[24] in distinguishing between obsolescence and inadequacy,[25] the above excerpts reveal acceptable opinion of the nature and source of obsolescence.

A sort of obsolescence to which commissions have frequently accorded particular consideration is "extraordinary" obsolescence, "extensive" supersession, or "extraordinary and rare injury." As previously noted, obsolescence of this kind, of which examples are discarded street railways or gas lamps, usually results in (1) abandonment of property without replacement in any manner by the same company and (2) inability or unjustifiability of assessing amortization costs of such property to remaining customers. Although no special nomenclature was devised for it, the Supreme Court has recognized that this sort of property abandonment may be treated differently from other forms.[26] The Missouri Supreme Court decided that[27]

"The abandonment of property which is never replaced but is superseded by another instrumentality, as gas lamps by electric lights or by another agency or company, is an extraordinary supersession."

After observing that obsolescence attaching to "out of date" property "is really depreciation," the Maryland Court of Appeals concludes that "extraordinary obsolescence . . . is quite another thing, and by extraordinary obsolescence we mean an extensive supersession of property uses."[28]

Inclusion in the Rate-Base. As concluded in Part I, abandoned equipment should not be included in the rate-base; rather the remaining investment ought to be amortized if this is reasonable. In the only case where it gave much attention to obsolescence, the Supreme Court confronted a situation in which patents costing $46,000 made obsolete property which had cost $800,000.[29] The Pacific Gas and Electric Company had obtained use of a patent on an oil-gas powered generator from one of its employees, an improvement which reduced the cost of manufacturing gas at least 2½ cents per MCF. Although the Company was willing to divide the savings from this improvement equally with consumers, it unwisely sought an arbitrary rate-base value of $4,000,000 for the patents. The Court stated through Mr. Justice McReynolds that provision for unamortized cost of obsolete property must somehow be made, although it did not state (as shown by the following excerpt) whether the cost of the obsolete property should be amortized, the value of it kept in the rate-base, or the value of the patents capitalized (a questionable procedure) in some unexplained manner:[30]

"Whether under the peculiar circumstances here presented, the rate base should be fixed by adding to the agreed inventory some fair valuation of the patent rights, or whether prompt recoupment should be allowed for the obsolescence caused by their introduction, or whether appellant should be saved from actual loss by some other feasible method, we will not undertake to determine. . . . "

In the Los Angeles Gas Company case, however, the Supreme Court sup-

[24] *Cheltenham & Abington Sewerage Co. v. Pub Serv. Com.* (Pa. Sup. Ct.), 186 Atl. 149, 15 P.U.R. (N.S.), 99 (1936).

[25] *Re Laporte Gas & Elec. Co.* (Ind.), P.U.R. 1921 A 824.

[26] *Kansas City Sou. Ry. Co. v. U.S.* and *Los Angeles Gas Co. v. Cal. R.R. Com.*, *supra*, n. 20.

[27] *St. Louis v. Pub. Serv. Com.*, P.U.R. 1932 A 305 at 320.

[28] *West v. United Ry. & Elec. Co.*, 155 Md. 575, P.U.R. 1928 D 141 at 174. It seems that this court erred in concluding that such obsolescence "is quite another thing," unless the opinion pertained only to regulatory treatment of types of obsolescence. See also *Re Home Gas & Elec. Co.* (Colo.), 5 P.U.R. (N.S.) 107 (1934).

[29] *Pacific Gas & Elec. Co. v. San Francisco*, *supra*, n. 20.

[30] *Ibid.*, at 416.

ported the California Commission's refusal to include an abandoned manufactured-gas plant in reproduction cost; the plant had been included in historical cost.[31] In excluding $3,000,000 from reproduction cost, because the stand-by plant in view of the available supply of natural gas was not considered an essential safeguard of public service, the Court said:[32]

"Even when cost is revised so as to reflect what may be deemed to have been invested prudently and in good faith, the investment may embrace property no longer used and useful for the public. This is strikingly illustrated in the present case, where . . . the gas manufacturing plant . . . has not been used for several years and is not likely to be used for many years to come, if at all. . . . We see no reason for embracing unnecessary facilities in an estimate of cost of reproduction."

Sometimes state commissions frequently have either neglected to withdraw obsolete equipment from the rate-base, or have left it in the base to encourage company use of additional technological improvements. "Just when property constructed in good faith becomes no longer useful in serving the public is a nice question ever difficult of determination,"[33] but commissions and courts have denied inclusion of discarded gas plants, unit electric plants which have been replaced by more economical central stations, and other property in the rate-base.[34] In an interesting recent case the Missouri Commission omitted from the rate-base a power plant which had cost about $3,000,000 because the growth of the load would make its use unnecessary until about 1938.[35] If the company had not endeavored to effect a cost reduction, if the company had not revealed the uselessness of the plant, the $3,000,000 might have remained in the rate-base because the Commission might not have found an acceptable reason for omission of it from the rate-base.

Because of recent expansion of natural-gas service, which frequently has replaced manufactured-gas service, valuation of abandoned manufactured-gas plants is a currently significant problem. The Montana Commission, although it usually has permitted amortization of cost of obsolete property, has refused inclusion of several artificial-gas plants in the rate-base when the possibility of failure of the natural-gas supply was only remote.[36] Gas-manufacturing equipment, which was relegated recently to stand-by use in Williamsport, Pennsylvania on commencement of natural-gas service, was eliminated from the rate-

[31] A common criticism of the legal requisite of fair value, cost of reproduction, has been reproduction of outmoded but not yet discarded equipment.

[32] *Los Angeles Gas Co. v. Cal. R.R. Com.*, *supra* n. 20 at 306.

[33] *San Diego v. San Diego Consol. Gas & Elec. Co.*, 7 P.U.R. (N.S.) 443 (1935).

[34] *Re Racine Water Co.* (Wis.), P.U.R. 1917 D 277; *Valparaiso Lighting Co. v. Pub. Serv. Com.* (Ind. Sup. Ct.), P.U.R. 1921 B 325; *Re Bement Elec. Lt. & Pr. Co.* (Ill.), P.U.R. 1922 B 346; *Re Kootenai Pr. Co.* (Ida.), P.U.R. 1923 A 764; *Re United Ry. & Elec. Co.* (Md.), P.U.R. 1926 C 441; *Boise Artesian Water Co. v. Pub. Util. Com.* (Ida. Sup. Ct.), P.U.R. 1926 A 195; *Columbus Gas & Fuel Co. v. Columbus* (U.S. Dist. Ct.), P.U.R. 1927 C 639; *Re Cumberland & Allegheny Gas Co.* (W. Va.), P.U.R. 1928 B 20; *Re Eastern Shore Gas & Elec. Co.* (Md.), P.U.R. 1929 E 244; *Dept. of Pub. Wks. v. Grays Harbor Ry. & Lt. Co.* (Wash.), P.U.R. 1932 A 140; *Re Ohio Bell Tel. Co.* (Ohio), 2 P.U.R. (N.S.) 113 (1934); *Re Northwestern Elec. Co.* (Ore.), 3 P.U.R. (N.S.) 1 (1934); *Dept. of Pub. Wks. v. Seattle Gas Co.* (Wash.), 3 P.U.R. (N.S.) 433 (1934); *Re Big Spring Elec. Co.* (Utah), P.U.R. 1927 A 655; *Re Portland Elec. Pr. Co.* (Ore.), P.U.R. 1930 D 357; *Re First Natl. Bank of Linton* (Ind.), P.U.R. 1930 D 421; *St. Louis v. Pub. Serv. Com.* (Mo.), P.U.R. 1932 A 305; *Re Customers of Edison Elec. Illum. Co.* (Mass.), 5 P.U.R. (N.S.) 369 (1934); *Pub. Serv. Com. v. St. Joseph Ry. Lt. H. & Pr. Co.* (Mo.), 14 P.U.R. (N.S.) 113 (1936).

[35] *Re Union Elec. Lt. & Pr. Co.*, 17 P.U.R. (N.S.) 337 (1937). In support of treatment of the plant as not used and useful it may be observed that the plant was not used between 1931 and 1937.

[36] *Billings v. Billings Gas Co.*, P.U.R. 1924 C 217; *Re Great Falls Gas Co.*, P.U.R. 1928 E 803.

base by the Pennsylvania Commission without consideration of amortization of the undepreciated investment.[37] But the Pennsylvania Superior Court remanded this case without definite conclusions on this point except to say that it did not know "what value should be allowed" for this equipment.[38] Other commissions, too, have refused to include similarly abandoned manufactured-gas plants in fair value.[39] Even though only the holder was being used, the manufactured-gas plant in San Antonio, Texas was left in the rate-base, because the natural-gas supply was not yet considered large enough "to give reasonable assurance that natural gas service may be continued."[40] The California Commission, because it desires to use a cost- or prudent-investment measure of the rate-base, has occasionally permitted inclusion of such abandoned property although amortization is usually considered preferable. The following statement summarizes the California Commission's position:[41]

"Under the basis of testing the reasonableness of rates long adhered to by this Commission, namely, the historical cost basis, the tendency has been to resolve doubts in favor of treating property as operative even though it was close to if not upon the line where it should undergo a change of status; and when declared to be non-operative, and existing reserves were inadequate to absorb its retirement from capital, provision has been made for its amortization."

The District of Columbia Commission once permitted an underground electric power system for street cars to be included in the valuation because earnings were insufficient for amortization.[42] Although 94 of about 300 street cars were old, heavy and inefficient, only 48—those dismantled or loaned—were omitted from the Omaha Company's rate-base.[43] In Yonkers, New York new and improved street cars were installed which consumed less power, necessitated less track maintenance, and were capable of a sufficiently higher speed that it was estimated 55 new cars would do the work of 63 old ones. Even though omission of rentals on the old cars would still leave them more costly to operate, the New York Commission permitted a $100,000 rate-base valuation for the old equipment.[44] In Illinois the Commission thus justified a rate-base allowance for a street railway's power plant that had been abandoned when the company began purchasing electricity:[45]

"If the value of this power station . . . were entirely excluded after the initiation of this improvement, and the operating expenses of the petitioner determined solely upon a consideration of the cost of the purchased energy . . . no incentive would exist for the development of a project of this character."

Obsolescence in Accrued Depreciation. Before attention is accorded amortization of obsolete property and kindred problems, it is necessary to consider inclusion of obsolescence in accrued depreciation. The foregoing observation—

[37] *Re Pennsylvania Pr. & Lt. Co.*, 16 P.U.R. (N.S.) 65 (1936).

[38] *Pennsylvania Pr. & Lt. Co. v. Pub. Serv. Com. of Pa.*, 19 P.U.R. (N.S.) 433, 193 Atl. 427 (1937).

[39] *Re Joplin Gas Co.* (Mo.), P.U.R. 1923 D 332; *Re McAlester Gas & Coke Co.* (Okla.), P.U.R. 1924 B 772; *Re Kansas City Gas Co.* (Mo.), P.U.R. 1925 A 653; *Re Cheyenne Lt., Fuel & Pr. Co.* (Wyo.), P.U.R. 1930 E 114; *Pub. Serv. Com. v. Missouri Edison Co.* (Mo.), Case No. 7264 (1933).

[40] *San Antonio Pub. Serv. Co. v. San Antonio*, P.U.R. 1924 A 259.

[41] *San Diego v. San Diego Consol. Gas & Elec. Co.*, 7 P.U.R. (N.S.) 443 at 466 (1935).

[42] *Re Capital Traction Co.*, P.U.R. 1919 F 779.

[43] *Re Omaha & Council Bluffs St. Ry. Co.* (Neb.), P.U.R. 1924 A 627.

[44] *Re Yonkers R.R.Co.* (N.Y.), 9 P.U.R. (N.S.) 337 (1935); see also *Wood v. Elmira Water, Lt. & Ry. Co.* (N.Y.), P.U.R. 1927 B 400.

[45] *Re Quincy Ry. Co.*, P.U.R. 1919 E 390 at 398. In *Re Spring Valley Util. Co.* (Ill.), P.U.R. 1920 F 139, the Commission would not allow the "full amount" of value for a small, stand-by electric generating station. See also *Re Davis Junction Elec. Co.* (Ill.), P.U.R. 1930 A 468.

that a number of commissions have refused to include discarded and obsolete equipment in the rate-base—was equivalent to recognition of the undepreciated investment in such property as accrued depreciation.[46] Likewise, the Supreme Court, as shown by its decision in the San Francisco case, would permit deduction of such accrued depreciation from the rate-base after the company has been reimbursed by amortization of obsolescence cost.[47] In the Kansas City Southern case the Supreme Court concluded that[48]

"If abandoned property is not charged off in one way or the other it remains as permanent inflation of the property accounts, and tends to produce directly or indirectly, a declaration of dividends out of capital."

In the Los Angeles case the Court supported exclusion of obsolete property from reproduction cost, but there was no question of omission of obsolete property from historical cost.[49]

In the preceding installment of this article, it was concluded that obsolescence may exist in property although the equipment has not been discarded. A cost-reducing invention, for example, makes the existing equipment less valuable. In none of the above Supreme Court cases, which otherwise deal with obsolescence, has this problem been encountered. In the McCardle case, however, the Court in these words seemed to deny the right to deduct accrued obsolescence in not yet abandoned property in determination of fair value:[50]

"There is to be ascertained the value of the plant used to give the service and not the estimated cost of a different plant. Save under exceptional circumstances the court is not required to enter upon a comparison of the merits of different systems."

In the New York and Queens Gas case Special Master Gilbert concluded that[51]

"The loss due to supersession cannot properly be said to have accrued during the period the superseded unit was in service. It occurred when supersession took place."

Although the Master's opinion is in accord with a conclusion stated in this article (Part I), that "ordinary" obsolescence cost may be assessed to users of the improvement, it cannot be said that occurrence of obsolescence awaits abandonment. A United States district court in the following terms recognized the manner in which obsolescence occurs:[52]

"Suppose that in the progress of the art there becomes available a device which is somewhat less expensive and somewhat more efficient than the old, but that the differences are not so great as economically to justify immediate substitution. Can it be said that the value of the old is in no wise impaired by obsolescence or that in appraising it we could fairly value it at its present cost when that is in excess of what the new and more efficient device would cost?"[53]

Several state commissions have ordered deductions from valuation, when

[46] *Supra*, notes 34, 35, 36, and 39.

[47] *Supra*, n. 29. The opinion of the staff of the Wisconsin Commission is that "... this decision of the Court lends strong legal support to the consideration of special circumstances in each individual case" before unexpected obsolescence cost is deducted from fair value. (*Op. cit.*, p. 81.)

[48] *Supra*, n. 20 at 456. The Railroad Company desired to retain the cost of abandoned property in the property accounts as a cost of the improvements, but the Court concluded that "the contention of the appellant ... will be found ... to rest upon the unwarrantable assumption that all capital expenditures result in permanent accretions to the property of the company." (*Ibid.*, at p. 447.)

[49] *Supra*, n. 32.

[50] *McCardle v. Indianapolis Water Co.*, 272 U.S. 400 at 418 (1926).

[51] *New York & Queens Gas Co. v. Newton*, P.U.R. 1921 A 530 at 538; 269 Fed. 277 (1920).

[52] *Idaho Pr. Co. v. Thompson*, P.U.R. 1927 D 388 at 437; 19 F (2d) 547 (1927).

[53] In *Arkansas Water Co. v. Little Rock*, P.U.R. 1924 C 73 at 107, likewise, a United States court observed that "if it should be showr ... that parts of the present property are obsolete because improved methods of handling water have been discovered ... it will then be time to depreciate this property for [this reason]."

replacement of existing with improved equipment is imminent.[54] Several other cases imply or expressly state that obsolescence in operated property should be deducted from the rate-base.[55] On the contrary, however, in 1929 the Wisconsin Railroad Commission was " . . . not prepared to find . . . the steam pumping equipment . . . obsolete to the extent that its value is substantially decreased because . . . electric pumping should be substituted."[56]

The diversity of opinion on inclusion of obsolescence in accrued depreciation indicates a lack of understanding of this problem by regulatory bodies and courts. Although obsolescence unquestionably occurs before abandonment of property, it is most desirable to withhold addition of it to accrued depreciation until the time of property abandonment unless (1) a charge for anticipated or realized obsolescence has been made to past or current operating costs, (2) the depreciation reserve is sufficient (as measured, perhaps, by company claims for accrued depreciation) to cover the obsolescence cost, or (3) excessive dividends have been paid in past years.[57]

Amortization of Undepreciated Investment. Amortization of abandoned or obsolete property may be treated according to (1) that type of obsolescence which cannot or should not be charged to operations, and (2) the sort of obsolescence which may be paid for out of use of the improvement. These types have previously been distinguished as "extraordinary" and "ordinary" obsolescence. There is usually no way for a decaying street railway, which substitutes busses for street cars, to collect its lost investment except by accumulation of an adequate depreciation or obsolescence reserve or by cost reductions from use of busses. Collection of obsolescence cost in street railways from subsequent bus riders may, indeed, be questioned, even though reasoning in terms of simply a change in the means of transportation would seem to justify it. Nor should a gas company ask to collect its undepreciated investment in gas street lamps from other gas customers. "Extraordinary" obsolescence may be met most desirably by gradual accumulation of a reserve for this purpose, whereas other company replacements of existing property with improved equipment may be handled by collection out of savings from use of the new technique. If a reserve is amassed for the latter type, rates obviously should be reduced when the improvement is installed.

In the Kansas City Southern case[58]—the case concerned inadequacy as well as obsolescence—the Supreme Court distinguished between obsolescence affecting "past operations "(e.g., abandonment of a branch railroad line) and obsolescence pertaining to "demands of the future" (e.g., replacement of exist-

[54] *Re Michigan State Tel. Co.* (Mich.), P.U.R. 1923 A 30; *Re New York Tel. Co.* (N.Y.), P.U.R. 1925 C 767; *Re Cozad Mutual Tel. Co.* (Neb.), P.U.R. 1928 B 695.

[55] *Ohio Mining Co. v. Pub. Util. Com.* (Ohio Sup. Ct.), P.U.R. 1923 E 180; *Re New England Tel. & Tel. Co.* (N.H.), P.U.R. 1926 E 186; *Re Capital City Tel. Co.* (Mo.), P.U.R. 1928 D 763; *Re Ohio Bell Tel. Co.* (Ohio), 2 P.U.R. (N.S.) 113 (1934); *Dept. of Pub. Wks. v. Seattle Gas Co.* (Wash.), 3 P U.R. (N.S.) 433 (1934); *Alexandria Water Co. v. Alexandria* (Va. Sup. Ct. of Appeals), 7 P.U.R. (N.S.) 53 (1935); *Chambersburg Gas Co. v. Pub. Serv. Com.* (Pa. Sup. Ct.), 7 P.U.R. (N.S.) 359 (1935); *Re Washington Gas-Lt. Co.* (D.C.), 11 P.U.R. (N.S.) 119 (1936); *Re Upstate Tel. Corp. of N.Y.* (N.Y.), 13 P.U.R. (N.S.) 134 (1936); *Dept. of Pub. Serv. v. Pacific Pr. & Lt. Co.* (Wash.), 13 P.U.R. (N.S.) 187 (1936); *Pub. Serv. Com. v. St. Joseph Ry. Lt. H. & Pr. Co.* (Mo.), 14 P.U.R. (N.S.) 113 (1936).

[56] *Re Oconto City Water Supply Co.*, P.U.R. 1929 D 65 at 93.

[57] The same conclusion is stated in a section of Part I, "Summary of Desirable Regulatory Practice."

[58] The Company was approaching the limits of the capacity of its line, and thus inadequacy was a significant issue in the case. But the Court did not segregate its comments on obsolescence and inadequacy.

ing facilities "with stronger and more efficient instrumentalities"). For this first type, which is analogous to "extraordinary" obsolescence, the Court decided that

" . . . such an abandonment or depreciation is properly chargeable to that account [profit and loss] unless a special depreciation account has been established in anticipation of such abandonments . . . "

The Court in the same case, however, admitted the propriety of amortizing the other sort of obsolescence:[59]

"Abandonments occasioned by changes of this character are therefore chargeable to future earnings, for the reason that the improved condition of the road is not only designed to meet the demands of the future, but presumably will result in economies of operation . . . The railroad company may, if it sees fit, . . . make provision for them by establishing a reserve for that purpose; but if no such provision has been made the abandonments should be taken care of by charging them to present and future operating expense."

In the instance of manufactured-gas equipment made obsolete by the Jones oil-gas generator, the Supreme Court in the San Francisco case would permit either amortization of undepreciated cost of this equipment or leave it in the rate-base, because[60]

" . . . to provide for it [obsolescence] out of previous revenues was not imperative, if possible. Former consumers were not beneficiaries, only subsequent ones. . . . If appellant's permissible profits depend upon the lowered costs and it is denied adequate return upon property which made the reduction possible, or recompense for the obsolescence, successful efforts to improve the service will prove extremely disadvantageous to it."

Similarly, in the New York and Queens case it was decided, that obsolescence[61]

" . . . became a proper charge against the economies to be realized therefrom. It furnished no basis for the imposition of an additional charge against the user of the superseded unit during the period of its useful service, over and above the higher cost of operating it."

Where obsolete property has been omitted from the rate-base because it is not used and useful, full amortization of the remaining investment in discarded and obsolete equipment has been permitted by a number of commissions.[62] The position of the Montana Commission, which is virtually the same as the Supreme Court's opinion in the San Francisco case, is summarized in this excerpt:[63]

" . . . where patents, new processes, contracts for cheaper power or other progressive features are introduced with the effect of quickly rendering obsolete and valueless expensive equipment, . . . and of reducing operating expenses, the utility should be permitted to treat the superseded property as unusual obsolescence to be amortized out of earnings, or the value of the patent new

---

[59] Under the ICC's accounting regulations the investment in property, which was abandoned by the track-straightening, grade-reducing program of the Kansas City Southern, would have been charged at once to operating costs. The Company complained that such a large charge to operating expenses would prevent payment of preferred dividends and thus prevent the sale of bonds needed to effect the improvement.

[60] *Pacific Gas & Elec. Co. v. San Francisco, op. cit.*, at 415–6. Nothing was said in *Los Angeles Gas Co. v. Cal. R.R. Com., op. cit.*, about amortization of the $3,000,000 in the abandoned manufactured-gas plant, the sum which the Supreme Court did not include in reproduction cost.

[61] *New York & Queens Gas Co. v. Newton*, P.U.R. 1921 A 530 at 538; 269 Fed. 277 (1920).

[62] *Re Racine Water Co.* (Wis.), P.U.R. 1917 D 277; *Re Fairfield Tel. Co.* (Neb.), P.U.R. 1918 B 154; *Re Elkhart Lake Lt. & Pr. Co.* (Wis.), P.U.R. 1920 A 345; *Re Owensville Lt. Co.* (Ind.), P.U.R. 1921 B 721; *Re Laporte Gas & Elec. Co.* (Ind.), P.U.R. 1921 A 824; *Milton v. R.R. Com.* (Wis.), P.U.R. 1925 C 321; *Re New England Tel. Co.* (N.H.), P.U.R. 1926 E 186; *Re Duluth St. Ry. Co.* (Minn.), P.U.R. 1927 A 41; *Re Coast Counties Gas & Elec. Co.* (Cal.), P.U.R. 1931 B 105; *California Farm Bur. Fed. v. San Joaquin Lt. & Pr. Corp.* (Cal.), P.U.R. 1932 D 310; *Re Pacific Gas & Elec. Co.* (Cal.), 1 P.U.R. (N.S.) 1 (1934).

[63] *Re Great Falls Gas Co., supra* n. 36 at 828.

process, or contract should be determined and capitalized as a part of the rate basis."[64]

The Missouri Commission and Missouri Supreme Court, which usually have denied any recompense for obsolescence, take a stand contrary to Supreme Court opinion. The Missouri Court said:[65]

". . . when an appliance becomes obsolete by reason of scientific discoveries and inventions, it is a risk which investors in utilities must take. . . . Its loss [in reference to 'extraordinary supersession'] is 'one of the hazards of the game' just as the extraordinary increase in values following the war was an unexpected gain. . . . "

Other commissions have ordered the amortization of obsolescence out of surplus, which will be an investors' loss, for example, if a rate reduction is based in part on this decrease in the rate-base.[66] In other cases, in which inclusion in the rate-base of abandoned, obsolete property has been refused, no mention has been made of amortization of obsolescence cost.[67] Of course, where only a portion of the value of obsolete property was permitted in the rate-base, no provision was made for amortization of uncapitalized amounts.[68]

The Wyoming Commission denied amortization of obsolescence cost because ample time for the 44-year old manufactured-gas plant to be amortized had elapsed.[69] The California Commission refused complete amortization for one company's obsolete property because "the previous owner had failed to amortize anything,"[70] and in two other cases it was concluded that the depreciation reserves were ample to care for obsolete property.[71]

In view of the frequent commission requirement that obsolescence should be met by depreciation reserves[72] and because denial of inclusion in the rate-base or amortization of obsolete property by

[64] The Illinois Commission expressed a similar opinion: ". . . even though a fund was not available to retire these units from the capital account, the new units are able to generate electrical energy at a sufficient saving over the old units to enable the remaining value of the old units to be amortized through operating expenses and at the same time show a reduction in operating expenses." *Re Rockford Elec. Co.*, P.U.R. 1925 D 154 at 165. See also *Re Southern Ill. Lt. & Pr. Co.* (Ill.), P.U.R. 1918 F 89; *Re Quincy Ry. Co.* (Ill.), P.U.R. 1919 E 390; *Illinois Comm. Com. v. Chicago Tel. Co.*, P.U.R. 1924 A 213; *Borth v. Philadelphia & West Chester Traction Co.* (Pa.), P.U.R. 1928 D 269; *Re Illinois Bell Tel. Co.* (Ill.), P.U.R. 1930 B 455.

[65] *St. Louis v. Pub. Serv. Com.*, P.U.R. 1932 A 305 at 320. In *Re Laclede Gas Lt. Co.*, P.U.R. 1929 A 561, it was said ". . . that the present consumer should not be compelled to pay for the failure of the company to protect its investment in the past." See also *Re Joplin Gas Co.*, P.U.R. 1923 D 332 and *Re Jackson County Lt. H. & Pr. Co.*, P.U.R. 1926 D 737; *Re Union Elec. Lt. & Pr. Co.*, 17 P.U.R. (N.S.) 337 (1937). In these cases it was believed that obsolescence cost should be taken from the depreciation reserve: *Logan v. Bismark Water Supply Co.* (N.D.), P.U.R. 1923 B 450; *Re Big Springs Elec. Co.* (Utah), P.U.R. 1927 A 655; *Re United Traction Co.* (N.Y.), P.U.R. 1927 D 637; *Re New York Tel. Co.* (N.Y.), P.U.R. 1925 C 767.

[66] *Re Consolidated Gas Co.* (N.J.), P.U.R. 1919 E 542; *Re Eastern New Jersey Pr. Co.* (N.J.), PU.R. 1930 A 419; *Re Wisconsin Pr. & Lt. Co.* (Wis.), P.U.R. 1931 C 289; *Re Northern States Pr. Co.* (Wis.), P.U.R. 1933 A 297. In so far as the author can determine, no commission has specifically attributed rate reductions to existence of obsolete property.

[67] *Re Bement Elec. Lt. & Pr. Co.* (Ill.), P.U.R. 1922 B 346; *Re McAlester Gas & Coke Co.* (Okla.), P.U.R. 1924 B 772; *Re Big Spring Elec. Co.* (Utah), P.U.R. 1927 A 665; *Columbus Gas & Fuel Co. v. Columbus* (U.S. Dist. Ct.), P.U.R. 1927 C 639; *Re First Natl. Bank of Linton* (Ind.), P.U.R. 1930 D 421; *Re Portland Elec. Pr. Co.* (Ore.), P.U.R. 1930 D 357; *Dept. of Pub. Wks. v. Grays Harbor Ry. & Lt. Co.* (Wash.), P.U.R. 1932 A 140; *Re Northwestern Elec. Co.* (Ore.), 3 P.U.R. (N.S.) 1 (1934); *Dept. of Pub. Wks. v. Seattle Gas Co.* (Wash.), 3 P.U.R. (N.S.) 433 (1934); *Re Customers of Edison Elec. Illum. Co.* (Mass.), 5 P.U.R. (N.S.) 369 (1934).

[68] *Supra*, notes 42, 43, and 44. The decision in *Re Davis Jct. Elec. Co.* (Ill.), P.U.R. 1930 A 468, is an exception. The Commission permitted $18,000 in the rate-base and $8,000 was ordered to be amortized.

[69] *Re Cheyenne Lt. Fuel & Pr. Co.*, P.U.R. 1930 E 114.

[70] *Re Southern Counties Gas Co.*, P.U.R. 1921 B 45; *Santa Barbara v. Southern Counties Gas Co.*, P.U.R. 1928 E 767.

[71] *San Francisco v. Pacific Gas & Elec. Co.*, P.U.R. 1918 A 506; *Re San Joaquin Lt. & Pr. Co.*, P.U.R. 1933 E 128.

[72] *Supra*, notes 58, 65, 66, 67, and 71.

many commissions necessitates anticipation of obsolescence by means of charges to past operations, consideration must be given the problem of forecasting or measuring obsolescence. That type of obsolescence, here referred to as "extraordinary" obsolescence, must, both in fact and because of Supreme Court opinion,[73] be anticipated if it is to be paid by a utility's customers.

Some commissions have found testimony on obsolescence "vague and unconvincing"[74] or they have recognized that they "cannot prophesy what inventions or discoveries will occur in the future."[75] The Virginia Supreme Court of Appeals was critical of forecasts of obsolescence:[76]

> "... a unit may not properly be depreciated on the ground of obsolescence on a mere conjecture that improvements in manufacture, construction, or operation will be devised which will render it obsolete. The obsolescence must be actually existing obsolescence, not anticipated obsolescence."

Thus, to the previously noted inaccurate and varying opinions of courts and commissions on obsolescence may be added the observation that nowhere is there unanimity of opinion on when allowances for obsolescence should be made, even though it would doubtless be necessary to rely on estimates of such allowances.

Company Escapes from Unfavorable Decisions. Because (1) they fear that recompense for abandoned equipment will not be forthcoming or (2) they wish to continue to obtain a return on completely or partially discarded property and simultaneously depreciate it, utility companies frequently declare that replaced equipment is being reserved for stand-by service. Stand-by use of obsolete equipment may be justifiable, of course, to meet either "peak" demands or service interruptions. Dependent upon the circumstances of each case and the policy of the commission, equipment which has been replaced by improved equipment has been allowed in the rate-base as necessary stand-by machinery,[77] or, chiefly because of infrequency of use, it has been omitted from the base.[78]

Gas utility companies, where natural-gas service has been substituted for manufactured-gas service, have employed an escape from the possibility of loss to investors because of abandonment of gas-manufacturing equipment. In many cities a mixture of manufactured and natural gas is being sold. Two advantages of mixed-gas service are (1) more ready adaption by the customer compared to the higher B.t.u. of natural gas and (2) partial use of the manufactured-gas plant as a means of preventing service interruptions. Yet these companies are obviously seeking assurance of return to them of the investment in their gas-manufacturing

[73] *Kansas City Sou. Ry. Co. v. U.S.*, *supra* n. 20.

[74] *Re Edison Lt. & Pr. Co.* (Pa.), 7 P.U.R. (N.S.) 337 (1935).

[75] *Re New York Tel. Co.* (N.Y.), P.U.R. 1926 E 1. See also *Re Michigan State Tel. Co.* (Mich.), P.U.R. 1923 A 30; *West v. United Ry. & Elec. Co.* (Md. Ct. of Appeals), 142 Atl. 870, P.U.R. 1928 D 141; *Re Eastern New Jersey Pr. Co.* (N.J.), P.U.R. 1930 A 419; *Pub. Serv. Com. v. St. Joseph Ry. Lt. H & P. Co.* (Mo.), 14 P.U.R. (N.S.) 113 (1936); *Cheltenham & Abington Sewerage Co. v. Pub. Serv. Com.* (Pa. Sup. Ct.), 15 P.U.R. (N.S.) 99 (1936).

[76] *Alexandria Water Co. v. Alexandria*, 7 P.U.R. (N.S.) 53 at 84 (1935).

[77] Cf. *Re Pocatello Gas & Pr. Co.* (Ida.), P.U.R. 1923 C 25; *San Antonio Pub. Serv. Co. v. San Antonio* (Tex.), P.U.R. 1924 A 259; *Re Frenchtown Water Co.* (N.J.), P.U.R. 1927 E 502; *Re East St. Louis & Interurban Water Co.* (Ill.), P.U.R. 1928 A 57; *supra*, notes 37 and 38.

[78] Cf. *Re Spring Valley Util. Co.* (Ill.), P.U.R. 1920 F 139; *Peekskill v. Peekskill Lt. & Ry. Co.* (N.Y.), P.U.R. 1923 C 169; *Dept. of Pub. Wks. v. Pacific Pr. & Lt. Co.* (Wash.), P.U.R. 1926 B 837; *Re Jackson County Lt. H. & Pr. Co.* (Mo.), P.U.R. 1926 D 737; *Dept. of Pub. Wks. v. Grays Harbor Ry. & Lt. Co.* (Wash.), P.U.R. 1932 A 140; *Re Northwestern Elec. Co.* (Ore.), 3 P.U.R. (N.S.) 1 (1934); *Re Union Elec. Lt. & Pr. Co.* (Mo.), 17 P.U.R. (N.S.) 337 (1937).

plants. While there have not yet been decisions concerning property made less useful by introduction of mixed-gas service,[79] it would seem that commissions ought to consider at least amortization of the undepreciated investment in manufactured-gas plants out of the economies from sale of mixed gas or natural gas.

Another opportunity to avoid an adverse decision results from prevailing ineffectiveness and infrequency of commission rate investigations. It may be 5 or 10 years after outmoded equipment has been abandoned or relegated to stand-by use before an investigation will discover this situation. During this period there may be an opportunity to write off the unretrieved investment in discarded equipment. None of the examined cases which otherwise deal with stand-by equipment mention this opportunity to cover obsolescence cost. If rate investigations were not infrequent, probably fewer installations of improved equipment would be made in jurisdictions where retrievement of obsolescence cost is not permitted.

Orders to Install Improvements. Although utility companies of their own volition have installed ever more improved equipment, in several cases state commissions have held that customers need not pay the high operating costs of equipment that ought to be replaced. One commission, for example, has asserted that " . . . the public should not be required to pay excessive operating expenses of an antiquated and obsolete plant . . . ," where operating expenses could be reduced with use of a desirable additional investment.[80] Unless a company is unable to borrow necessary funds, utility companies will ordinarily effect economies which have this result. If they neglect to do so, such orders should be given. But ordering of rate reductions because a "utility declines to use that method which is more economical," or because "the company prefers to retain its present instalment at a higher expense than necessary," or because it is believed that the "public is entitled to be served by a reasonably modern plant which is not wasteful in its methods"[81] does not consider the more significant fact of whether old equipment may be amortized out of economies to be effected.

Summary

Types of obsolescence, either the sort which must or the sort which need not be paid for by charges to past operations, may be measured by means of discounting forthcoming or realized decreases in costs or revenue. Wherever savings in costs or increases in net revenue from uses of an improvement are more than sufficient to amortize undepreciated investment in existing equipment without changing rates, any utility company should, and probably will, install the improvement. When property has been abandoned because it is obsolete, it ought not (and this is the usual court and commission opinion) to be

[79] In the hearings before a Master on the Peoples Gas Light and Coke Company's request for an increase in rates there was much variation in testimony on per cent condition, because some equipment has had only limited use since mixed-gas service was started. It is suggested that utility companies owning such property might better seek a prudent-investment rate-base. (Stein, A. L., "The Chicago Gas Case," 13 *Journal of Land & Public Utility Economics* 318 (August, 1937).) The Commission has appealed the case to the Supreme Court of Illinois.

[80] *Re Plymouth Elec. Lt. Co.* (N.H.), P.U.R. 1922 B 467.

[81] *Re River Falls Pr. Co.* (Ala.), P.U.R. 1930 E 97; *Newport News v. Newport News Lt. & Water Co.* (Va.), P.U.R. 1923 D 91; *Warsaw v. Warsaw Gas & Elec. Co.* (N.Y.), P.U.R. 1920 E 618. See also *Re Michigan State Tel. Co.* (Mich.), P.U.R. 1923 A 30; *Re Bell Water Co.* (Cal.), P.U.R. 1926 D 475; *Re Lexington Water Co.* (Mo.), P.U.R. 1928 E 322.

included in the rate-base. Rather the investment remaining in obsolete property ought to be amortized out of the increase in net revenue or it may be written off by means of a reserve which may be accumulated for the purpose, except for the previously mentioned limitations; the procedure will depend in part upon the type of obsolescence—"ordinary" or "extraordinary." The Supreme Court in its scant remarks on obsolescence would permit these methods, but many commissions which disregard these Supreme Court opinions will allow neither rate-base inclusion nor amortization out of revenue of any type of obsolete property. In the latter jurisdictions, if depreciation reserves are not adequate to cover obsolescence or high dividends have not been previously paid, investors lose and customers gain from installation of an improvement. In view of these decisions it may be desirable for some utility companies to accumulate by estimation an obsolescence reserve, even though obsolescence cost may justifiably be collected from users of the improvement. Some commissions, indeed, have shown no comprehension of the manner by which obsolescence may be covered; some appear to be applying the used-and-useful-property concept to get rate reductions in a backhanded way. Not only is use of improvements resulting in "ordinary" obsolescence and possible rate reductions and service betterments discouraged by such adverse opinions—a discouragement to companies which now may be offset by ineffective regulation—but they also encourage companies to seek such subterfuges (not much encouragement may be required) for inclusion of obsolete property in the rate-base as unnecessary stand-by uses or mixed-gas service. In general, there is a notable absence of unanimity of opinion and understanding among commissions and courts on treatment of obsolete utility property.

Land Credit Practices and Successful Farm Operation

By R. R. RENNE*

A MAJORITY of American farmers have borrowed at one time or another in the operation of their farm business. In 1930 more than 2/5 of the owned farms were mortgaged up to an average of approximately 40% of the value of land and buildings, and the estimated total farm mortgage debt of the country exceeded 9 billion dollars.[1] Thus American farmers generally have made rather heavy and widespread use of credit and it has been an important, and often the deciding, factor in the success or failure of their farm operations. Credit has undoubtedly enabled many to weather trying times when their current income was insufficient to meet current expenditures. It has enabled many to reap relatively early the advantages of improved practices, devices, and services which they would have had to postpone until they had saved up enough to purchase them with cash. But it has also been a great burden to many through its excessive or improper use and, in the case of a surprisingly large number of farmers, it has proved their complete undoing.

The economic condition of borrowers and lenders is quite different, but their credit interests are fundamentally the same. Both should be interested in discovering and adopting the best possible credit terms, arrangements, or practices. If a borrower is loaned more than his capacity to repay, or on terms or arrangements which make it unlikely or impossible for him to pay out on the loan, he loses his business or suffers serious embarrassment, or both. At the same time the creditor's savings are in danger of being wholly or partly lost, or he must go through a tedious and often embarrassing experience to collect what is due him. Unfortunately in America there has not been a general understanding and appreciation of this mutual interest of creditor and borrower, or of some of the more fundamental principles of good credit policy in the case of farm loans. The results have been correspondingly unfortunate and distressing. Bankruptcies, foreclosures, and farm abandonments in large numbers are some of the consequences.

The findings presented in this paper are based upon an analysis of Montana farm mortgage indebtedness and bankruptcy data, but they are quite generally applicable to the Northern Great Plains where farm credit experience has been most discouraging. The effects of easy credit, which encouraged highly speculative or ill-adapted agricultural enterprises and resulted in improper land use and severe farm and community distress, seem to be particularly pronounced in this area which includes most of Montana. The findings are also probably applicable, in part at least, to many other agricultural areas in the United States since land credit practices prevailing over the nation generally during

* Head of the Department of Economics and Sociology, Montana State College and Agricultural Economist, Montana Agricultural Experiment Station.

The author wishes to acknowledge the assistance of Works Progress Administration, Work Project Number 6007-1294, in making the computations for this study and for the making of the figures.

Contribution from Montana State College, Agricultural Experiment Station, Paper No. 114, Journal Series.

[1] Based on data from Bureau of the Census, U.S. Dept. of Commerce, pertaining to farms owned wholly or in part by the operator.

its developmental period have been relatively uniform, although their effects have varied considerably in different areas depending upon the character of the community and the land resource itself. It is hoped that in this analysis of the Montana data, certain important credit factors or conditions that have contributed to the present unstable agricultural economy may be revealed, thus helping to furnish the basic data necessary for improving farm land credit practices and correcting conditions in the years ahead.

Important Credit Factors or Arrangements Affecting Loan Experience

Four main conditions or factors in the credit arrangements made between the borrower and the lender have a very significant bearing upon the successful operation of the farm and a satisfactory loan-experience record. These are: (1) the amount loaned in proportion to the true value of the farm, (2) the length or term of the loan, (3) the method of repayment, and (4) the interest rate charged. The first of these is probably the most important, yet today most loans are made with too little understanding and appreciation of the long-time productivity value or true worth of the land.[2] A very large share of disastrous loan-experience cases, as this paper will point out, have occurred because the amount loaned was too large in proportion to the true worth of the land. Such loans are most frequently made during boom periods or at times of high prices when an exaggerated opinion about the current as well as the ultimate value of the land prevails. In numerous areas in Montana, and this is undoubtedly true for many other states, the mortgage debt per acre against the land is larger than the long-time productivity value of the land itself, the debt frequently being double or triple the productivity value or even more.

If loans on farm lands are made for too short a period, the annual cost of paying off the loan is too heavy or the uncertainty of being able to renew or refinance the loan under satisfactory terms when it matures is a constant source of worry and tends to encourage short-sighted land-use policies. In many counties of Montana from ⅓ to ½ of the farm mortgages in force are for terms of five years or less. In contrast, many business corporations, when they borrow funds or need capital, issue bonds with maturity dates as much as 75 or 100 years later or issue common stock that never has to be paid off at any specified time.

The method of repayment of the loan is also very important. If it is a straight-term loan, the farmer must pay interest on the entire amount for the full duration of the loan and is expected to save up a lump sum to pay the loan in full at the end of the period. This is a very difficult arrangement even for the most successful and thrifty farmer. In contrast, if the loan is *amortized*—that is, equal periodic payments in which an increasing proportion of the annual payment goes for principal and a decreasing proportion for interest, so that when the last annual installment is paid the loan is paid off in full—it is much easier for the farmer to pay off the principal, and in addition his total interest charge is considerably reduced. In spite of this, from ⅓ to ½ of the farm mortgages in effect in most Montana counties are straight-term loans.

[2] For a statement regarding methods of computing the productivity values of dry farm and grazing lands see the author's article with H. H. Lord on "An Appraisal of Farm Land Assessments," 13 *Journal of Land & Public Utility Economics* 360–71 (November, 1937) or see Montana Agricultural Experiment Station Bulletin, No. 348, "Assessment of Montana Farm Lands."

The rate of interest is an important item in the total cost of the loan. The farmer who borrows money on a straight-term basis at 8% for approximately 12 years pays a sum equal to the full amount of the loan in interest and still owes the full amount of the principal at the end of that time. In some Montana counties as much as ⅓ of the farm mortgages made during the period 1919–35 bore over 10% interest, and in many counties more than ¼ of the mortgages outstanding on July 1, 1936 bore from 8 to 10%. These rates are high compared with the usual rate on farm mortgages outstanding which is between 5 and 6%. The fact that the interest rate is fixed or rigid means that a much larger proportion of the total farm income is required to pay interest in low-price or depression periods when times are hardest, than in prosperous or high-price periods.

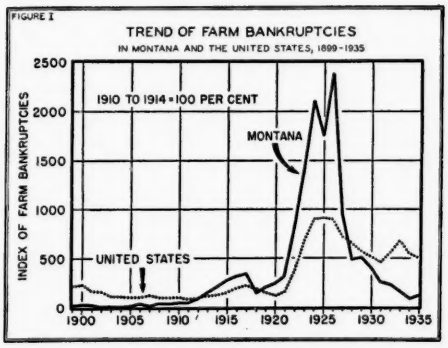
The Farm Bankruptcy Record

When a farmer finds he is unable to meet his credit obligations he has the following alternatives: (1) if his difficulties seem to be of a temporary nature, he may be able to arrange with his creditors for an extension of time or a change in the method of payment, or for a renewal of the contract for an additional period, or he may make some other plan for continuing the contract; (2) if he is so heavily in debt that there does not appear to be any prospect or hope of his ever being able to pay out he may: (a) await forced liquidation by his creditors through foreclosure or similar legal proceedings, or (b) he may decide that the best thing for him is to declare himself bankrupt, make a voluntary settlement with his creditors by applying whatever property he possesses in satisfaction of the claims against him, and start over in the same or some other occupation with a clean sheet. Under United States bankruptcy laws a farmer may not be placed in bankruptcy involuntarily (against his will). Therefore, when a farmer goes bankrupt it is a personal admission to the world of the very bad and hopeless state of his affairs. This acts as a deterrent to many who have an unusually strong sense of personal pride, moral obligation, and ambition. Consequently, they struggle on against great odds only to find too frequently that in the end they are unable to pay out and the creditors force liquidation through foreclosure or similar means. But in many cases bankruptcy stands as the most easy, reasonable, and desirable thing to do in spite of the admission of complete failure which it involves. And, unless the liabilities exceed the assets and the court is convinced that the borrower is justified in being declared bankrupt, it will not permit bankruptcy action to be completed. Consequently, bankruptcies are significant because they represent the worst and most hopeless condition that can occur in loan experience.

Of the more than 105,000 farm bankruptcy cases concluded in the federal district courts of the United States since passage of the National Bankruptcy Act in 1898, approximately 3.5% have been Montana cases, whereas Montana farms have averaged but ⅔ of 1% of all farms during the same period.[3] The trend of farm bankruptcies in Montana has followed the same general movement as that for the nation as a whole, but Montana farm bankruptcies increased relatively much more during the post-war years of the twenties and have declined relatively more since 1930 (Figure I). In

[3] The number of farm bankruptcies in the United States from 1898 to 1935 inclusive totaled 105,159, and the number in Montana for the same period was 3,694, or approximately 3.5%. See Wickens, D. L., "Farmer Bankruptcies, 1898–1935," United States Department of Agriculture, Circular 414.

other words, Montana farm bankruptcy numbers have varied proportionately more than those for the country as a whole, as can readily be seen from the relative steepness of the two curves in Figure I. However, the trend in farm



Note that bankruptcies in Montana increased relatively much more during the twenties than in the nation as a whole, and declined more since 1927. (Data computed from Wickens, D. L., "Farmer Bankruptcies, 1898–1935," U.S.D.A. *Circular* 414.)

bankruptcies in Montana during the past 40 years has been very similar to that in the neighboring states of North and South Dakota, Wyoming, Idaho, and the Mountain States area as a whole.[4] Whether plotted on the basis of actual numbers or in terms of relative or percentage changes above or below the average for a base period (1910–1914 = 100), the curves for these different states show close similarity in general direction of movement over the 40-year period. The curves of all of the states run along closely together at a low level until after 1920 when they start shooting upward, Wyoming, Idaho, and Montana showing the largest relative increases during the twenties. Farm bankruptcy numbers in practically all these states declined to their pre-war level after 1930.

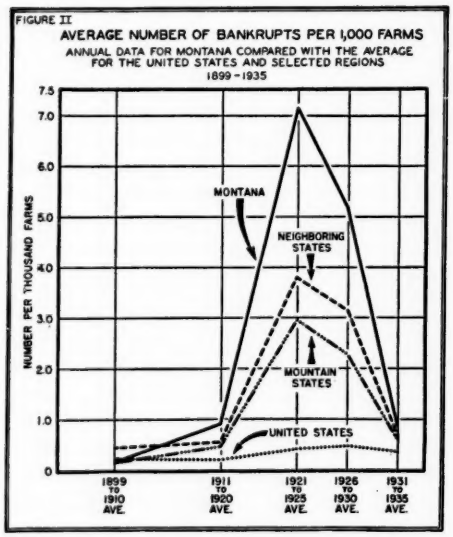
Apparently, much the same factors or forces were operating generally in the Northwest and Mountain States area to cause a widespread increase in farm bankruptices during the twenties. The number of bankruptcies in each of these states increased during these years more than 1,000% (a tenfold increase), and between 2,000 and 4,000% in some states (Wyoming, Idaho, and Montana). The relatively pioneer condition of these states and the rapid expansion and development, accompanied by heavy borrowing and a great increase in farm mortgage indebtedness which occurred during the decade just preceding the twenties, undoubtedly are significant contributing factors accounting for the high farm bankruptcy record in these states compared with that in the rest of the nation.

Much more significant contrasts are discovered when comparing bankruptcies with total number of farms. Since 1915 the proportion of farmers bankrupt in Montana has averaged higher than that in any of the neighboring states or in the Mountain States area (Figure II). During the period 1921–5 Montana farm bankruptcies averaged more than 7 per 1,000 farms annually, while North Dakota, the second highest, averaged slightly over 6 per 1000. The average for the four neighboring states (the two Dakotas, Idaho, and Wyoming) was less than 4, and for the Mountain States area it was less than 3 per 1000 farms annually. Again in the next 5-year period 1926–30, Montana led in the proportion of total farmers bankrupt with an average of over 5 per 1000 farms annually (Figure II). During the period 1931–5, Montana once more led this group of states, although the proportion of farmers bankrupt declined to the pre-war level by the end of the period in all of the states (Figure II).

Thus farm bankruptcies have been relatively heavier in Montana for most of the years since the turn of the cen-

[4] The Mountain States area includes: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

tury than they have been in the neighboring states or in the Mountain States area taken as a whole, and during the twenties they were notably heavier.



Note that Montana farm bankruptcies were about 15 times as heavy per 1,000 farms at the peak as the national average, and about twice as heavy as the average for the neighboring states and Mountain States. (Bankruptcy data taken from Wickens, *op. cit.*, and data on number of farms from the Census.)

When to this is added the fact that the Mountain States area and the group of four adjoining states had a proportionately greater number of bankruptcies per thousand farms than the average for the nation as a whole during most of these years, and especially during the twenties, the Montana farm bankruptcy record becomes even more startling. Such a record certainly merits detailed analysis to determine the principal factors and forces which may account for it.

Characteristics of Farm Bankrupts

In an attempt to determine what set of forces or conditions is chiefly responsible for the Montana farm bankruptcy record, the principal characteristics of Montana farm bankrupts were analyzed, including amount and type of indebtedness, tenure status, size of farm, and type and quality of soil, and these data were compared with corresponding ones for all farmers to show what relationship exists between the bankruptcy record and selected causal factors.

The total claims against the nearly 3,900 Montana farmers who went bankrupt during the 40 years 1898–1937 amounted to approximately 50 million dollars, or an average indebtedness of nearly $13,000 per farm. Against these claims the bankrupts had assets of less than 14 million dollars, or but slightly better than 25 cents on the dollar. This 14 million dollars includes items for which the debtors under Montana law claim exemptions, so that the creditors lost, on the average, more than 75 cents of every dollar they loaned these farmers. The average assets per farm totaled $3,625, which is approximately only ⅓ of the average value per farm of all farm property shown by the Agricultural Census ($11,109 in the 1930 Census, $9,709 in 1925, $13,468 in 1920, and $9,599 in 1910). Thus, measured in terms of value of farm property, bankrupt farms average only about ⅓ the size of all Montana farms.

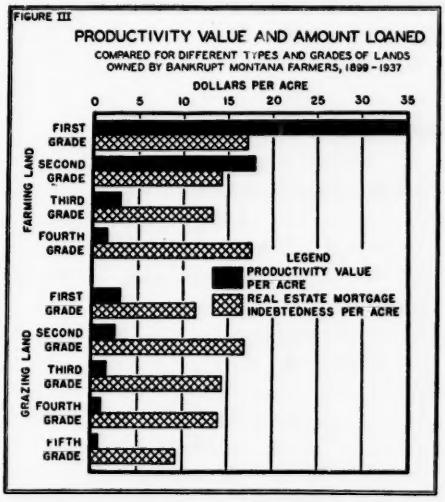
Bankrupt farmers who had mortgages on their land had a much heavier debt per acre in this type of claim than the average of all mortgaged Montana farmers. The real estate mortgage debt of the farmers who have gone bankrupt and who had such claims against them averaged $15.38 per acre, while the average mortgage debt of all mortgaged farmers in the State averages less than $6 per acre or but 2/5 as much. Thus, the bankrupt farmers had borrowed at least 2½ times as much per acre on their land, on the average, as all Montana farmers who have mortgaged their lands. This heavy debt of the bankrupts and the resulting heavy fixed interest charges were undoubtedly important factors contributing to bankruptcy. Evidence that

such was the case may be gathered from the fact that in the two counties where the real estate mortgage debt of the bankrupts was least out of line with the average farm debt in the county, there was very light bankruptcy, while in the county where the real estate mortgage debt of the bankrupts was most out of line, bankruptcy was heaviest; more than ¼ of all farmers in that county went bankrupt in a single decade.

Another way of showing that bankrupt farmers borrowed much more on their land than the average of all farmers is to compare the ratio between the farm mortgage debt and the long-time productivity value of the land in the case of bankrupts, with a similar ratio for all mortgaged farmers. The productivity value of the land is based on a careful soil classification and average yields and prices, and represents the true worth or debt-paying ability of the land. On this basis the productivity value of the lands owned by bankrupts and by all mortgaged farmers was determined in the 23 counties for which soil classification data are available. The productivity value of bankrupt lands thus determined averaged $8.45 per acre, while that for all land in the 23 counties averaged $9.35 per acre. In other words, the bankrupt lands were about 10% poorer than the average. However, the real estate mortgage debt of bankrupt farmers in these 23 counties averaged $14.89 per acre or 1.76 times as much as the productivity value, while the real estate mortgage debt of all mortgaged farmers in these counties averaged less than $6 per acre or less than ⅔ of the productivity value. Therefore, in terms of productivity value, the bankrupt farmers borrowed nearly 3 times as much on their land in proportion, as did all mortgaged farmers in these counties. This very heavy debt on the land was undoubtedly a significant factor contributing to bankruptcy.

Apparently loans made to these bankrupts were not made with any clear understanding or appreciation of the productivity values of the lands based on a scientific inventory of the soil, because there seems to have been no relationship between the amount loaned per acre and the type or grade of soil (Figure III). The amount loaned seems to have been relatively uniform regardless of the type and grade of soil. For example, an

FIGURE III



Note the comparative uniformity in the amount loaned regardless of type or grade of land and the discrepancy between productivity value and amount loaned, particularly on the lower grades.

average of $17.20 per acre was loaned on bankrupt farms on which first grade farm land predominated,[5] while on bankrupt farms on which fourth grade farm land predominated, an average of $17.71 per acre was loaned. In contrast to these amounts loaned, the productivity values of these grades of land are about $35.00 and $1.50, respectively. Similar discrepancies between amount loaned and quality of soil were found in the case of bankrupt farms in which grazing land

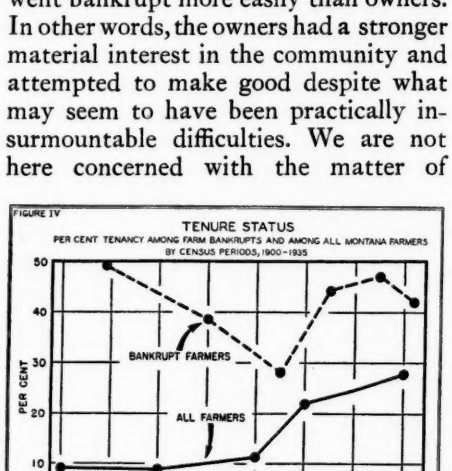
[5] The grades are as follows: first grade farm, 22 bushels per acre; second grade, 16 to 21 bushels; third grade, 12 to 15 bushels; and fourth grade, 8 to 11 bushels.

predominated.[6] Thus no relationship was found to exist between the type and quality of soil and the amount loaned per acre.

The proportion of tenancy among bankrupt farmers is consistently higher than that among all farmers in the State. Slightly more than ⅓ of all Montana farmers who have gone bankrupt were tenants who did not own any of the land that they farmed, while the average percentage of tenants among all farmers in the State, according to the federal census tabulations, averaged but about ½ as much during the 40-year period studied. Approximately ½ of all farmers who went bankrupt prior to 1910 were tenants, while the 1900 Census of Agriculture showed less than 10% tenancy among all farmers in the State, and the 1910 Census less than 9%. During the decade 1911–20 nearly 40% of the bankrupts were tenants compared with only 11.3% for all farmers (1920 Census). During the five years 1921–5 when bankruptcies were heaviest, the proportion of bankrupts who were tenants declined to 28.1% compared with the 1925 Census figures of 21.9% tenancy among all farmers. During the next two five-year periods, 1926–30 and 1930–5, however, nearly ½ of the bankrupts were tenants, while the proportion among all farmers was less than ¼ (Figure IV). Thus it would seem that tenants have gone bankrupt in Montana in much greater proportion than owners (from 3 to 5 times in proportion prior to 1920, and about 2 times after 1925).

Apparently the tenants borrowed as much or even more per dollar of debt-paying ability through chattel mortgages and personal notes and credit than did farm borrowers who owned their land. This coupled with the fact that tenants are probably less persevering and do not have their roots in the soil and in the community, so to speak, to the extent that owners do, undoubtedly explains in large measure why tenants went bankrupt more easily than owners. In other words, the owners had a stronger material interest in the community and attempted to make good despite what may seem to have been practically insurmountable difficulties. We are not here concerned with the matter of whether they were always wise in staying on in the face of such difficulties, but with the fact that because they did, the bankruptcy rate was kept lower than it otherwise would have been. During the years 1921–5 when bankruptcies were so heavy, the difficulties in meeting financial obligations in the face of low post-war farm prices and relatively low yields beginning in 1919 were apparently so great that owners went bankrupt almost as readily as tenants. Aside from this period, however, tenants have gone bankrupt in a much greater proportion than owners (Figure IV).

FIGURE IV



Note that the percentage of tenancy is much greater among bankrupts than among all farmers.

[6] Grazing land is classified according to its carrying capacity, which is expressed in terms of the number of acres required to graze a 1,000-pound steer for a 10-month grazing season. There are five grades, which are as follows: first grade grazing land, 18 acres or less per steer; second grade, 19 to 27 acres; third grade, 28 to 37 acres; fourth grade, 38 to 55 acres; and fifth grade, 56 acres or more per animal.

Relationship of Farm Bankruptcies to Selected Causal Factors

Probably the most important set of forces contributing to Montana's high farm bankruptcy record is the combination of conditions that existed during the period of heavy settlement and development in the State. This period—1910 to 1918—was characterized by rising prices, high yields, soaring land values, booming business activity, and feverish optimism. This combination, in the absence of any previous scientific analysis of the long-time producing ability of the soil and without a rational appraisal of the usual or "normal" price and business conditions that could be expected, was conducive to a level of land values and lending and borrowing policies which were definitely out of line with the long-time ability of the farmers to pay.

The effect on loans made under the booming conditions and high land values of the war period was to place them greatly out of line with productivity value (loans averaged nearly twice the productivity or long-time, debt-paying value of bankrupt lands). An analysis of Montana farms with real estate mortgages which went bankrupt during the years 1922–6 when bankruptcies were at their peak shows that more than 4/5 of the mortgages on these bankrupt farms were made during the five-year period 1916–20 when prices and land values were very high. This clearly points to the conclusion that mortgages made under these abnormal conditions caused the loans to befar out of line with the productivity value or long-time ability of the land to pay out. Alarge proportion of the loans made to all farmers during these years was for the short term of five years. The inevitable result of such lending procedure was a record rate of farm bankruptcies a few years later.

The drop in farm wheat prices after the war reduced the farmers' ability to pay their debts. Thus, in addition to requiring more bushels to repay the loans compared with the period in which the money was borrowed, the drop in wheat prices which was faster than the drop in prices of commodities farmers buy, reduced the farmers' income relative to their costs by 60%, thereby drastically lowering the net profits with which they could pay their debts. The industrial prosperity of the twenties made alternative opportunities available in the larger cities; thus there was a great exodus of bankrupt farmers from the State. The movement out of the State during the twenties was sufficient to give Montana the record of being the only state in the Union to have a smaller population in 1930 than in 1920.

Suggestions for Improving Farm Loan Policies

Bankruptcies have been kept at a low level by debt moratoria and debt adjustments and a huge governmental spending and relief program since 1930. However, such subsidization and relief are referred to as temporary and emergency measures. Adjustments should be worked out which will permanently reduce farm failures and establish a sound and satisfactory type of agriculture. The following suggestions for an improved farm loan policy would spare communities, creditors, and debtors alike the economic and social losses which bankruptcy involves.

The first and most important step toward a sounder loan procedure is determination of the productivity value or true worth of the lands according to a scientific soil survey and average yields and prices, to be used as the basis for lending. One of the most significant causes of heavy farm bankruptcies during the twenties was the very heavy loans made during the preceding boom years with no relationship to produc-

tivity value. It is significant that the average real estate mortgage debt of loans that have not been foreclosed or on farms which have not gone bankrupt in Montana is less than ⅔ of the productivity value of the lands, while for bankrupts it averages over 1¾ times.

A second and very important step is the use of the productivity values so established as a basis for tax assessment of the lands. The great inequalities which now exist between assessed valuations and productivity values among the different grades of farm and range lands are a very significant cause of tax delinquency, of increased farm tenancy, of public ownership, and of improper land use.[7] Heavy farm taxes, clearly out of line with the tax-paying ability of the lands, reduce the net returns available to the farmer for paying his debts and also make it cheaper to rent than to own in many areas. One of the first steps in bringing about a more stable and satisfactory agriculture is to make ownership desirable and feasible by bringing taxes into line with the earning capacity of the lands.

Farm mortgages should be made on an amortized basis and for a longer period than the 5 or 10 years which characterized such a great proportion of the straight-term farm loans made in earlier years. In addition, since farm income fluctuates widely from year to year as a result of climatic and price conditions, provision should be made in the loan contract for annual payments to be based upon the current ability to pay. The Fairway Farms Project in Montana represents an attempt to apply these principles. Under this project the operators of the various farms have a contract to purchase the farm upon which they live, and all the net profit accrues to the tenant purchaser to be applied on the purchase of the land.

It is desirable to prevent the reoccurrence of overcapitalization and misuse of agricultural land resources which have resulted in heavy bankruptcy and widespread farm failures. When more favorable climatic and economic conditions temporarily occur, as they undoubtedly will, it will be necessary in one way or another to prevent individuals and lending agencies from repeating these mistakes, and thus avoid the disastrous results set forth here. This may be accomplished in two general ways.

(1) Farm operators and lending agencies might be taught to see the long-time advantages to be derived from more scientific lending practices both as a means of stabilizing farm finances and of securing proper use of the land. The interests of both borrowers and lenders are best served when the loan is made on the basis of long-time productivity value and the best adapted use of the land. Loans made on this basis will neither undermine the stability of the farm business nor endanger the savings of the lenders as has so frequently been the case in the past. They will also prevent undue rises in land values based on boom psychology and mistaken ideas concerning the best adapted use. To be most successful this will require the closest cooperation of all credit agencies serving agriculture and an intelligent and sympathetic understanding on the part of the farmers.

(2) Legislation might be enacted to enable local communities, through the formation of "conservancy districts" or by use of zoning ordinances, to control use of their land resources in keeping with that which, over a long period of time, seems best adapted to its natural characteristics. Thousands of acres were settled as farm lands and funds borrowed on the basis that they were farm lands, though experience and scientific

[7] See the article on "An Appraisal of Farm Land Assessments," *op. cit.*

investigation have since proved them wholly unsuited for cultivation. Either of the above two methods would do much to stabilize farming, particularly western agriculture, in the years ahead.

One of the principal causes of farm failures and bankruptcies, as has been pointed out, is the very natural tendency of owners and lending agencies alike to expand their investments in agriculture when agricultural prices are relatively high. In such periods lending agencies are optimistic regarding future returns and encourage farmers who are likewise optimistic to expand and take advantage of the apparent opportunities for profit. Too often what actually happens is that such expansion is so widespread that the agricultural plant for the nation as a whole, particularly in certain products such as wheat, is overexpanded and surpluses, low prices, and farm failures result. In contrast, during periods of relatively low agricultural prices, lenders are reluctant to make loans in face of the unsatisfactory agricultural outlook and discourage borrowing or expanding. Thus, farmers are deterred from buying low-priced live stock and land and, since there are few ready buyers, agricultural prices are forced downward still farther.

It would seem that prospects for making good investments and for resulting satisfactory loan experiences are in reality better when loans are made in the trough of a low-price phase than at the peak of prosperity. From a national standpoint agricultural price fluctuations could be smoothed out considerably and farm failures and unsatisfactory loan experiences reduced by reversing the usual lending policy and making relatively more loans during low-price and relatively fewer during high-price periods. This change in policy could be actively encouraged by a plan of repayment which would take into account changes in the price level and in the buying power of the farmers' dollar. Provisions could be stipulated in the loan contract whereby the farmer would pay back dollars of the same purchasing power as that of the dollars he borrowed. This could be done by providing for adjusting the annual loan payments to compensate for changes in the general price level and for changes in the parity position of the commodities the farmer produces. Thus, instead of paying back his loan in terms of dollars, he would repay it in terms of buying power.

This procedure is not unjust to lenders since, if loans are made when the price level is down and are paid back when it is up or when the farmers' parity position has improved, the lender will be repaid actually more dollars than he loaned, but as in the case of the falling price level, he will receive the same buying power. Although such a procedure may seem a little far-fetched,[8] it is in effect what is done in debt adjustment cases when farm debts are adjusted downward to make it possible for the debtor to pay out. A policy which places the responsibility for the soundness of the loan upon the lender as well as upon the borrower is more just, and would tend to promote sounder loans and decrease the number of farm bankruptices and failures resulting from disastrous price fluctuations. With the above plan and a scientific determination of the long-time productivity value of the farm as the basis for determining the amount to lend, loans can be made with more complete assurance that the farmer will be able to repay the loan and, along with the lender and the community, profit from the investment.

[8] Incidentally this same idea was proposed by Ivan A. Thorson, "Adjusting Leases to the Changing Dollar Value," 3 *Journal of Real Estate Management* 312–16 (February, 1938). The author, however, was not aware of Mr. Thorson's article until after he had written this paper.

Urban Land Department

MORTON BODFISH, *Editor*

Appraising Real Estate for Tax Purposes: The Income Method

FROM time immemorial tax assessors have arrived at the value of real estate largely by one of two methods. In this country they have used as criteria either the prices at which comparable properties in the immediate vicinity have been sold or they have used cost of reproduction less depreciation. In recent years a tendency has been noted to use another approach—namely, the income from a property as the determinant of its taxable value. Professional appraisers have come to recognize that the income which may be expected from a property or the benefit which may be derived from it is the primary, if not the sole, measure of its taxable value. As the income of a piece of property increases, its value increases. As this factor decreases, the value decreases. Hence in prosperous periods assessed values should increase and in depression periods they should decrease.

While the idea of a real estate tax based on a value derived from income is novel in this country, it is not a new theory of tax valuation. Nine countries in Europe and the Orient use this method: England, Belgium, Italy, Esthonia, France, Hungary, Japan, Netherlands and Roumania. The English system of basing taxes on income or rent may have been the outgrowth of their land system in which the tenants are required to pay the tax. In England, however, rent used as a base in assessing the property is the amount the rating authorities believe can reasonably be expected from the property. An allowance for repairs, maintenance, etc., is deducted from the gross rent to determine net rent. Vacant property is exempt from taxation since it has no income. In the case of a privately owned residence, the rent which the property would command if not occupied by the owner is used.

The procedure under the English system requires that the income from real property be filed with the rating authorities at a specified time. A penalty for failure to comply is imposed. Then the rating authorities prepare the draft valuation list for the assessment committee. This list is opened to inspection by the public and any objections raised are reviewed by the assessment committee. Upon full approval, this list becomes the final valuation list from which assessing officers and rating authorities compute the tax bill for each property.

Statutory Provisions in the United States

The technique for adapting this principle in this country does not require revolutionary legislative changes. Indeed, the machinery has already been set up in five states: Alabama, Indiana, Iowa, North Carolina, and Oregon. In three other states—Utah, Wisconsin, and Maryland—assessing officials have interpreted the statutes as giving them authority to use income in computing taxable value.

In 1923 an Alabama law stated:

"For the purpose of assessment, real and personal property shall be estimated at its fair market value . . . taking into consideration, if real estate, . . . whether it is vacant, or is occupied or in use, and if occupied and in use, the *rent* derived therefrom, its proximity to local advantages . . . ."[1]

In Indiana is found the following:

"Sec. 3. Basis of Assessment—Valuation of Property. —All property shall be assessed for taxation at a just valuation and at a uniform and equal rate of assessment.

"In determining such valuation, all officials whose duty it is to assess or review the assessment of property for taxation shall take into consideration all of the following elements insofar as the same shall be applicable: (a) the true cash value; (b) the *normal earning capacity* under conditions of average efficiency of operation of property of like kind and character, similarly located; (c) the replacement cost less proper depreciation; (d) voluntary sales, if any, of similar property in the same vicinity, . . . "[2]

Iowa has also provided for the use of income as an element in taxable value in the following language:

"All property subject to taxation shall be assessed at its actual value which shall be entered opposite each item. The terms 'actual value,' 'assessed value' and

[1] Laws, 1923, Act 172, §34.
In this and all subsequent quotations from statutes and court decisions the italics are supplied by the writer.

[2] Laws 1937, H.B. 87, §3.

'taxable value' shall hereafter be construed as referring to 'actual value.' The tax rate shall be applied to the actual value, except as otherwise provided.

"In arriving at said actual value the assessor shall take into consideration *its productive and earning capacity*, if any, past, present, and prospective, its market value, if any, and all other matters that affect the actual value of the property; and the burden of proof shall be upon any complainant attacking such valuation as excessive, inadequate or inequitable."[3]

North Carolina provides that:

"In determining the value of real property the assessors shall consider . . . the *past income* derived therefrom, its *probable future income* . . . ."[4]

This is further refined in the Machinery Act of North Carolina as enacted by H.B. No. 345, Laws 1937, Article V, §501, which lists the factors that the assessors should consider in determining value of land and buildings. These include location, quality of soil, water power, type of construction, age, etc., as well as the *past income therefrom, and its probable future income.*

Oregon follows with:

"True cash value of all property shall be held and taken to mean the amount such property would sell for at a voluntary sale . . . taking into consideration *its earning power and usefulness* under normal conditions."[5]

The language in Utah's Constitution and statutes is vague but the State Tax Commission considers it sufficiently broad to permit the inauguration of use and income as a basis of assessment. This Commission has invited the Utah Realty Association to submit suggestions as to procedure along this line. For this reason, Utah has been included in the list of states whose statutes are considered sufficiently broad to permit this type of approach.

The Wisconsin Tax Commission in its Assessors' Manual (1930, p. 116) says:

"a. Income. As a general proposition, the power of lands or the improvements thereon to produce income is what makes them valuable. This income is often a complicated thing. *The rental value of property*, whether intended for rental purposes or used by the owner, *is an important factor which can be used in determining the market value of property.* The worth of this factor is always influenced by other factors affecting value. The method of use is by capitalization of either gross or net rents received or which can be received."

In Baltimore, Maryland, assessment officials permit apartment owners to elect the income basis for assessing their properties because they believe "that it is the only fair method for the evaluation of apartment properties." Gross annual income computed from actual or advertised rentals is used as the basis. Apartment houses are divided into four classes, according to type of construction, equipment, etc.: Class A is capitalized at 18% of the gross rental value; Class B at 20%; Class C at 22%; Class D at 24%. These percentages and this basis of assessment were worked out in conference between the real estate owners represented by the Apartment House Owners' Association of Baltimore and the assessing officials. The Association comments that:

"This basis of assessment has proved to be most effective. It has tended to place an assessed valuation on properties which the owner thinks is fair and which he is willing to pay. It also has done away with the inequality of assessments that existed for many years, especially in the older houses where rental values dropped considerably during the past five or six years."

Court Opinions

A recent survey shows court decisions in 17 states—Connecticut, Florida, Illinois, Maine, Massachusetts, Michigan, Minnesota, Nebraska, New Jersey, New York, Oklahoma, Pennsylvania, South Dakota, Texas, Utah, Washington, and West Virginia—which give consideration to the income method of appraisal for tax purposes.

In *Somers* v. *City of Meriden et al.*[6] the Connecticut Supreme Court of Errors held that capitalization of average annual gross rentals for the past three years at the rate of 10% was the proper method of arriving at value, for property tax purposes, of property on long-term lease where there is no ready market for the property. In two other cases in this State, approval of the use of income in arriving at value is mentioned but the language used is not as clear-cut.

In *City of Tampa* v. *Colgan et al.* (Circuit Court, Hillsborough County, decided March 2, 1935) the court decided that in determining cash value of real property for taxation, items of income, location, and possibility of commercial success must be considered.[7]

[3] Code 1935, c. 342, §7109.

[4] Laws 1933, Art. IV, §405.

[5] Code Annot. (Bobbs-Merrill), Suppl. 1935, Vol. 5, Title LXIX, c. II, §69-231.

[6] 174 Atl. 184 (1934).

[7] See also *Central Realty Co. v. Board of Equalization and Review of Cabell County* (W. Va.), 158 S.E. 537 (1931) and *Rowland v. City of Tyler* (Tex.), 5 S.W. (2) 756 (1928).

Several Illinois cases contain similar statements, e.g., *Sanitary District of Chicago* v. *Young* where the court stated:

"It must be conceded generally speaking, that *the fair cash market value of property depends upon the amount of earnings that property will net for its owners* when employed to its capacity or to the capacity that its patronage will insure."[8]

The Nebraska court contributes a forthright statement:

"The lands in question are agricultural and are used for that purpose. *The net income which they will produce to the owner is a factor in determining their actual or market value.*"[9]

In Massachusetts, the Board of Tax Appeals accepted the taxpayers' contention that the income potentialities of the property were logical bases for arriving at a fair cash value of the properties.[10] In 17 other cases in this State income is definitely mentioned as a factor to be considered in arriving at value.

In New York the court decided in one case that the valuation of property may be determined for assessment purposes by capitalizing the net rental value[11] and in another case[12] that, where the income of a building is a good return on the assessed valuation, the presumption of the correctness of the assessment will stand. The cases given here are sufficient to show the reasoning of the courts concerning this method. Many others could be cited to indicate the trend of judicial opinion.

Conclusion

The frequency with which income is mentioned as a determinant of value in court decisions since 1930 indicates a definite trend in judicial thinking. Since that date the cases in which the income method has been mentioned are twice as numerous as in all prior years. Legislative changes have for the most part occurred within the last eight years. Public opinion seems to be focusing along this line. That tax assessors also are aware of the trend is indicated by the following short article which appeared in the *Chicago Daily News* of September 29, 1938:

"A new factor is to be used in making the 1939 quadrennial real estate assessment, it was announced today by Cook County, Illinois, Assessor John S. Clark. Hereafter, Clark said, he will *consider the income from buildings as one of the factors in making the assessment.* For example, whereas in the past, two apartment buildings of equal size and age were assessed the same regardless of their location, now, if one building is situated in a high class residential section and the other is in or near a so-called blighted area, the latter will be assessed at a lower figure than the former because the income from it is less. There always has been, Clark pointed out, a differential in the land value of two such properties."

The key to the situation lies with assessing officials. It remains for tax assessors to recognize the principle more generally and to employ it increasingly in the evaluating process.

LAWRENCE G. HOLMES
Secretary, National Committee on Real Estate Taxation, National Association of Real Estate Boards

[8] 285 Ill. 351; 120 N.E. 818 (1918).

[9] *Schmidt v. Saline County*, 122 Neb. 56 at 59 (1931).

[10] *Meekins, Packard and Wheat, Inc. v. Board of Assessors of the City of Springfield*, Sept. 20, 1934, B.T.A. Adv. Sh. 135.

[11] *People ex rel. Mortgage Com. of N.Y. v. Miller et al.*, Supreme Court, Special Term, N. Y. County, March 28, 1938.

[12] *People ex rel. Parklin Operating Corp. v. Sexton et al.*, Supreme Court, Special Term, Bronx County, April 5, 1938.

Current Trends in Real Estate

BECAUSE activities in real estate, particularly those of the building industry, have acted as a catalytic agent in breaking up previous depressions, an analysis of the current condition of the real estate field may indicate its ability to react at the present time. To the extent that data are available, this analysis covers the period from 1930 to the present with emphasis upon the current period;[1] it deals with factors both directly and indirectly related to the real estate field.

Developments in residential real estate will probably control the progress of the entire field for some months to come. Of these developments the factors demanding attention in the near future will be the trends of vacancies and rents and their relation to residential building.

Vacancies. Residential vacancies[2] have recently been rising slightly and rather con-

[1] The term "current period" is used to refer to the months following the break which occurred in September, 1937.

[2] *Survey of Current Business*, August, 1938.

sistently over the country from a low point of 2.4% in 1937. The increase for the first quarter of 1938 over the entire year of 1937 stands at 16.7% for the country as a whole. Results of a similar comparison for sections of the country reveal that the South Central states have experienced the sharpest increase and that the Middle Atlantic states have felt the slightest increase. The South Atlantic states show a decline in vacancies, but incomplete data for recent months make any conclusions for the present year impossible. Whereas, for the country as a whole and for all sections, residential vacancies are still less than ½ as prevalent as in 1932, the low year for dwelling occupancy of the previous depression, the definite, though small, rise which is recurring is important to note.

Rents. After slowly but steadily increasing from the low point of 1933, rents[3] have given way only slightly to recent depressive influences. Although August rents registered no change from those of July, nevertheless they rested at a point 1.4% below prices of the previous August and 2.9% below those of last October, the high month for the current period. However, August rent prices of this year are still 37.9% over those of November and December, 1933, the low months for the previous period. Apartment rents have paralleled the movements of single-family dwelling rentals, but have failed to climb as high since 1933. While the general cost of living index has been dropping slightly but steadily since last October, the rent item has leveled off very little. A few months ago, lines showing relative changes in these two indexes crossed, indicating that other items included in cost of living have been dropping more than rent prices.

General Construction. According to one index of all types of construction,[4] values of contracts awarded have fluctuated considerably since the low point in 1933, usually attaining yearly highs in November and December and secondary highs in July or August of each year. For the first seven months of 1938 this index stood 14.5% below that of the same period in 1937. July awards settled 19.4% below those of the same month last year, which was, however, the high for the current period. There may be evidence of stabilization, since July, 1938 awards are 17.4% above those of March, the low for the current period, and since the index shows no change from the June figure. On the other hand, the July point may merely mark the mid-year high which has been characteristic of the index since 1936. Another index of all types of construction[5] reveals that, after reaching a high point in October, 1937, contract valuations gradually declined until June, when they dropped rather markedly below those of the previous month. Other data on value of contracts awarded indicate that July construction of all types was 25.4% below that of July a year ago, slightly below that of June, but twice as high as the low for the current period which occurred in February, 1938. Numbers of projects undertaken have generally approximated this trend, except that number of projects for July, 1938 rose 14.9% over those of the previous July.[6]

Non-Residential Construction. Data on contracts awarded in non-residential construction[7] roughly follow similar movements, showing an increase both in number and valuations over the low point for the current period reached in February, 1938, and a decrease from July of last year. Valuations for July of this year, however, fell more proportionately from those of July a year ago than number of projects, indicating, in general, that lower priced projects have been contracted for as the current recession has deepened. Over a longer period of time an upward trend is apparent when comparison is made with the low of the previous depression; number of projects for July was more than twice as large and valuations three times as high as those recorded for February, 1938.

Public Utility Construction. For the past year and a half public utility construction contracts awarded[8] have fluctuated more than other types. For July, 1938, number of projects undertaken stood 33.2% below the

[3] National Industrial Conference Board indexes. *Survey of Current Business*, January, 1938, p. 24, *Ibid.*, September, 1938, p. 23, and *Supplement*, 1936, p. 11.

[4] Federal Reserve index of construction, based on valuations of contracts awarded and adjusted for seasonal variations. *Survey of Current Business*, January, 1938, p. 24, and *Ibid.*, September, 1938, p. 24.

[5] *Engineering News Record* index of construction contracts awarded. *Ibid.*, p. 25.

[6] F. W. Dodge construction index. *Survey of Current Business*, January, 1938, p. 24, and *Ibid.*, September, 1938, p. 24.

[7] F. W. Dodge statistics. *Ibid.*

[8] *Ibid.*

same month a year ago, whereas valuations of contracts awarded were 72.4% higher. However, comparison of July figures with those of June of this year indicates that July project totals rested 22.6% below and valuations 54.6% above those of the previous month. July valuations increased proportionately more than number of projects over the low point of last February and over the previous depression low in the spring of 1933. The statement must be made that for the current period figures for public utility contracts fluctuate too widely to justify conclusions based on them alone. One report, however, suggests that public utilities will spend slightly more in 1939 for capital goods, including new plants, replacements, etc., but will not embark on any planned projects covering a long period of time.

Residential Construction. Figures on residential contracts awarded,[9] expressed both in terms of number of projects and dollar valuations, indicate a quite substantial increase for this July over July a year ago and a jump of approximately 140% above totals for last January, the low point for the current period. Compared with July of last year, current figures for projects undertaken show an increase approximately three times as great as the increase in valuations. Comparison with the earlier period substantiates this tendency toward a greater rise in valuation of residential units. July valuations of residential contracts awarded point to an increase over the low for the previous depression of 2,693.8% and over June of the present year of 2.7%, both percentages representing increases in valuations approximately four times as great as increases in number of projects, compared on the same bases.

Another index of construction contracts[10] verifies the upward trend in residential building by indicating that contract values for July rose 4.5% over those of the same month a year ago and 9.5% over those of this June to reach a figure only 2.1% below that of February, 1937, the highest figure attained since the depression began in 1929. The rise in residential building began early in 1935 and has maintained its level fairly consistently with the exception of a rather abrupt drop culminating in a low point last January. Nevertheless, July values remain 76.9% above that low point, representing a considerable improvement in this particular field.

Figures available on residential building permits[11] are rather inadequate because of differences in size and general smallness of the samples. With this reservation, analysis indicates that June permits declined 38.9% in number and 30.6% in estimated costs from those of June, 1937. The movements in costs apparently do not parallel those in number of permits. Total permits granted for June, 1938 increased 4.4% over the previous month, whereas costs of projects increased 12.0%.

Federal governmental activities in the private housing field are increasing. August mortgages accepted for insurance[12] by the FHA numbered 14.3% higher than mortgages insured during the previous month and 75.2% higher than those insured during August of last year. Expressed in dollar amounts, insured mortgages for August stood 12.3% over those of July and 84.1% over those of August, 1937. According to FHA estimates, approximately 70% of the mortgages insured cover new home construction.

FHA property improvement loans[13] made during August measured 22.0% in number and 23.0% in amount over the previous month to mark a new high for loans made under the re-enacted Title I of the National Housing Act. As of the end of August, the Rental Housing Division of the FHA has written insurance on 76 projects amounting to almost $47,000,000. Although activity in this division has been irregular, the Administration has recently issued commitments to insure mortgages on 92 new projects.

Study of these relative changes in residential building emphasizes one apparent tendency—valuations of projects have increased slightly more than numbers of projects. When the moderately rising trend of vacancies and the stabilized position of rents are also considered, the ability of residential building to promote recovery in real

[9] *Ibid.*

[10] Federal Reserve index of residential construction, adjusted for seasonal variations. *Survey of Current Business*, January, 1938, p. 24, and *Ibid.*, September, 1938, p. 24.

[11] *Monthly Labor Review*, February, 1938, pp. 429 and 431.

[12] 4th *Annual Report*, Federal Housing Administration, pp. 34-5.

[13] *Ibid.*, pp. 8 and 82.

estate activity may well be questioned. In other words, will the apparently narrowing base of residential construction enable the industry to make a substantial contribution to economic recovery, particularly in the face of unfavorable vacancy and rent trends?

Real Estate Securities. Measured in dollars, securities issued for income-producing real estate, including land and buildings,[14] rose in July to a figure 107.3% over the July total a year ago, marking a decrease of 2.9% from the high for the current period, reached in October, 1937. Definite conclusions from the data available are difficult because capital issues of this type vary so greatly from month to month. Whereas the July issues suggest an improvement or at least a tendency to remain steady, totals for the first seven months of the current year were 72.7% below those for the same period a year ago. In general, the recent trend of average bond prices has been lower than that for the nine months preceding October, 1937, with some indications that the turning point may have been reached in July, 1938.

Real estate bond price movements, based on securities issued in the large eastern cities, indicate that bond prices have been holding fairly stable, even increasing slightly during the past few months. The average price for all types of issues for the end of August rose 1.6% above that for the close of the previous month; this figure was 16.9% below the closing figure for August of last year but represented an increase of 65.0% over the average closing price of the low month of the previous depression (December, 1932). For the first eight months of the current year, general bond prices stood negligibly lower than for the same period of 1937.

Although general mortgage bond prices have fluctuated more than first liens and first leasehold bonds during the past year, movements of the past few months indicate that they may be stabilizing or rising very slightly. At the end of August, 1938, bond prices for all types of buildings were slightly higher than for the end of July, lower than for August of last year, and two to three times the prices at the end of December, 1932, with the exception of office buildings, which rose only 28.3% over prices of the same date. End-of-August bond prices for apartment hotels, hotels, and theaters were slightly higher than at the end of last December, whereas prices for housekeeping apartments and office buildings were moderately lower.

Interest rates on mortgage loans have been holding rather stable and tending to remain low, giving little indication of rising markedly in the near future. Furthermore, general interest rates are following a similar trend, influenced particularly by action of the Federal Government in maintaining low rates.[15]

Foreclosures. With moderate variations and with the exception of slightly higher figures during the first five months of 1935, non-farm foreclosures[16] have gradually decreased during the past 4½ years, reaching the lowest point in July of this year. Foreclosures for August, however, were 3.6% greater than those of the previous month though still 15.1% below those of August, 1937, having declined 22.5% from the high month (September, 1937) for the current period.

Building Material Prices. According to one index of wholesale prices,[17] building material prices have fluctuated very slightly in the past year and a half, having decreased negligibly from June to July of this year, still remaining only 7.8% below the July figures of last year and 8.2% below the high for the current period, occurring in May, 1937. July prices were 36.6% above the low of the previous period, reached in April, 1933. The very gradual but fairly consistent decline in this index does not offer much hope for any substantial drop in building material prices in the near future.

Employment. An index of employment[18] reveals that June of the current year marked the low point for the present period and that July figures increased 1.7% over those of June. Although this index does not make allowance for the gradual increase in the total supply of workers from year to year,

[14] *Survey of Current Business*, January, 1938, p. 35, and *Ibid.*, September, 1938, p. 35.

[15] See the article by Dr. Walter Lichtenstein, *Chicago Daily News*, October 13, 1938, p. 35.

[16] Statistics of the Federal Home Loan Bank Board, *Survey of Current Business*, January, 1938, p. 25, and *Ibid.*, September, 1938, p. 25.

[17] Index of wholesale prices, U. S. Department of Labor. *Survey of Current Business*, January, 1938, p. 24, and *Ibid.*, September, 1938, p. 24.

[18] Federal Reserve index of employment, adjusted for seasonal variations. *Survey of Current Business*, January, 1938, p. 28, and *Ibid.*, September, 1938, p. 28.

and is therefore not an adequate reciprocal of unemployment trends, the tendency seems to be for employment figures to stabilize and probably to increase slightly in the near future. While the data upon which these tentative conclusions are based cover employment in general, the trend of employment in the building and construction fields will be interesting to follow during the coming months, particularly if the trends in vacancies, rents, and volume of residential building are related to it.

Considered from a broader point of view, general employment conditions and trends of purchasing power will ultimately influence the residential building field. In the last analysis, building and owning a home must prove to be a profitable investment for the individual. That it is not profitable at present for an increasing number of people is evidenced by the recent rise in foreclosures. Illustrating one cause for this trend, an index of purchasing power reveals that for the first five months of 1938 ability to sustain carrying charges involved in home financing was curtailed to a point 6.6% below that of the same period last year. For the early part of this year, power to purchase was 12.3% above the average for 1933. To be sure, rents are remaining firm, a factor which should forecast increased building. However, the tendency for values to surpass volume in residential construction and the apparently stabilized high costs of construction offer little hope that home building and home ownership will soon give a marked impetus to recovery.

MARY KIRSTEN

Editorial Assistant to the Executive Vice President, United States Building and Loan League

A Coordinated Attack on Non-Conforming Uses

EDITORIAL NOTE: *This is the first of a series of short discussions of the problems caused by and suggested remedies for non-conforming uses of urban land.*

ORDERLY development of a community is the main purpose of zoning. The value of zoning areas for various uses in proper relation to each other was recognized in the form of ordinances only comparatively recently. In the districting of a city it was obviously impossible to achieve a clear-cut division into districts of like use. The zoning of an area for a particular use meant, therefore, that other uses were already in existence—the "non-conforming uses" of our zoning ordinances. The intention of those sponsoring the adoption of zoning was that such non-conforming uses be eliminated over a period of time, so that even the older parts of a city might be of a homogeneous character. That this has not been accomplished to any extent indicates the difficulties inherent in the problem.

Some of these difficulties will be briefly indicated and some possible approaches to these questions suggested.

That zoning is not an end in itself, that it is, or should be, part of a comprehensive plan for the proper development of a community is generally recognized—by professional planners. That this conception of zoning was not accepted by the general public when zoning ordinances were first adopted, that it still has not taken hold, is one of our difficulties in dealing with non-conforming uses. In Chicago, in 1921, a separate zoning commission was appointed; the work was not placed in the hands of the Plan Commission. The public did not regard zoning as a development to be tied in with the Plan of Chicago. The same difficulty is again being encountered in some circles when plans for rezoning the city are being discussed.

Since the zoning ordinance is a legal device by which the community adopts a plan to control its development, the validity of its various provisions depends upon the degree to which the courts are willing to accept them as a reasonable exercise of the police power. The status of zoning in the courts when the earlier zoning ordinances were adopted was uncertain. Perhaps recognition of the need for eliminating non-conforming uses therefore did not lead to such positive steps as might otherwise have been taken. As a partial measure, provisions were inserted which were expected, through negative action, gradually to eliminate non-conforming uses. Many ordinances, for instance, provide that a non-conforming use once changed to a conforming use cannot revert to its former status; some, that a non-conforming use cannot be changed except to a conforming use; others, that the abandonment of a non-conforming use for a given

period terminates the right of resuming such use. On the other hand, such provisions as the following are included, in order not to place a hardship upon property owners: a non-conforming building may be altered or improved if the building was designed for such use, or a non-conforming building damaged not more than a certain percentage of its value may be rebuilt.

In such questions as rebuilding after extensive damage, extensions of non-conforming uses, and the granting of variations, the position of the building department and the zoning board of appeals assumes particular importance. In Chicago, for example, some 2,000 variations have been granted in the last 15 years, a large share of them permitting new non-conforming uses or extensions of those already existing. This fact indicates that, at times at least, the members of the Board of Appeals were not aware of the place which zoning should have in establishing desirable land-use patterns. The same holds true as to enforcement of the zoning ordinance by the Department of Buildings. Particularly during the years of the depression, many uses were allowed in violation of the zoning ordinance. These violations tend to establish more firmly the position of non-conforming uses and make more difficult the steps toward their elimination.

It seems necessary to restate what might seem obvious. The concept that zoning is a part of a comprehensive plan for the city, that it is not an end in itself, must constantly be kept in the foreground in discussions of the subject. If zoning is thus accepted not only by a small group of particularly interested citizens and by members of the enforcing agencies, but by the whole community, the zoning ordinance will be regarded not as merely a restrictive statute but as a positive help to make the community more desirable. With wide understanding of this comprehensive approach, the more technical provisions of a zoning ordinance, with which the general public will continue to be less familiar, will be of real value. In the light of court decisions rendered since the inception of zoning, more aggressive steps toward elimination of non-conforming uses might now be taken. The opinion is held by many that positive regulations of a reasonable nature which would not work an undue hardship upon the holders of properties would find fairly general support by the courts.

It is no doubt generally accepted that it would be unreasonable to terminate all non-conforming uses abruptly and without time for amortization of the investment. One suggestion is that a given period should be agreed upon for the amortization of investments in properties which constitute non-conforming uses and that such uses, whatever their individual characteristics, should be given a certain length of time in which to change to a conforming use. Another proposal is that varying periods of amortization might be determined to fit each particular case by an agency such as an existing board of appeals. Periods of amortization might differ greatly, depending upon the type of use. It would seem that many uses, although they are decidedly injurious to the neighborhoods in which they are located, could be eliminated relatively soon. In setting the period for eliminating each such use, the Board would have to consider each case in the light of the existing plan for the particular area.

In some cases it may be desirable to examine the zoning ordinance, particularly the provisions dealing with abandonment of non-conforming uses. The possibility of revision should also be explored in regard to the provisions dealing with the rebuilding of structures after extensive damage has been done. The percentage value of the building damaged seems often unnecessarily high.

Because of the increasing interest in zoning and the steps which are now being taken in a number of cities toward rezoning, further discussion of this question of non-conforming uses is desirable. In all cases it is necessary to stress the comprehensive approach to the problem, to emphasize the need for proper cooperation among, and efficient administration of the zoning ordinance by the plan commission, the building department, the zoning board of appeals, and the city council. Even the best ordinance will be useless unless it is administered by persons who realize the relation of zoning to the development of proper land-use patterns. Such administration, in turn, will be achieved in most cities only if supported by an enlightened public and by citizens' organizations.

D. E. MACKELMANN
Executive Director,
Metropolitan Housing
Council, Chicago

Land Resources Department

GEORGE S. WEHRWEIN, *Editor*

New Uses for County Zoning:

The Jefferson County, Wisconsin Ordinance

UP UNTIL a few years ago, county zoning in Wisconsin was confined, with one exception, to the northern cut-over counties. Use of the broad police powers granted to Wisconsin counties has met with noteworthy success in that area. In southeastern Wisconsin the economic situation is entirely different from that in the northern part of the State. This is a highly developed agricultural region, containing some urbanized areas and also the most highly industrialized region in the commonwealth. The desire to avoid high costs of public services resulting from isolated settlement, which induced zoning in the northern cut-over counties, was not the motive in the southeast. However, things are happening which have become of sufficient importance to force themselves upon the attention of the authorities, many of whom now realize the soundness of the idea of providing some plan or standard toward which future development of their counties can be directed. Some of the questions whose solution is pressing are:

1. The unordered development in the outskirts of cities;
2. Low standard and unregulated land subdivision;
3. Unnecessary depreciation of values of investments in residential and summer home areas;
4. Unsightly and dangerous roadside development;
5. Waste of water resources and flood control;
6. The pollution of lakes and streams;
7. The lack of adequate parks and other necessary recreational facilities;
8. Inadequate provisions for the development of future highway and transport facilities;
9. Soil erosion;
10. Depreciation of property values through misplaced uses;
11. The best use to be made of tax reverted lands;
12. Generally, the rights of the rural population to the same protection of their health, safety, and general welfare as is enjoyed by others.

All these problems do not occur in any one county; they all do appear in southern and southeastern Wisconsin which, economically and geographically, should be considered as a unit.

Now the southeastern agricultural counties are becoming very much alive to the necessity for adopting remedial and preventive measures. Within the last 2½ years, county planning and zoning has been considered and has reached various stages of advancement in Rock, Walworth, Kenosha, Racine, Waukesha, Jefferson, and Dane counties. Jefferson County has adopted a zoning ordinance which is now in effect in nine towns; the Walworth County Board has approved of one for submission to the towns; the Dane County ordinance has recently been adopted by the County Board and approved by five towns; and the Kenosha County Park Commission is considering a preliminary draft for that county.

Development of County Plans

The process by which these county plans are developed is of interest and importance. In the first place, the present financial status of most municipalities is not such as to be conducive to the laying out of sums of money for planning purposes, however much they may desire it. Yet the authorities acknowledge the desirability of such procedure at the earliest opportunity. Therefore, where sufficient interest has been shown, the staff of the State Planning Board has furnished the services ordinarily supplied by a paid consultant. This is in keeping with the provision in the statutes which instructs the State Planning Board to cooperate with public bodies interested or engaged in planning their jurisdictions. The actual drafting of the regulations and district boundaries is done only after basic studies have been made and closely examined. The desires and good judgment of the local authorities are applied and they determine what are the problems of their community and how far they wish to go in the matter of regulation. Even in the southeastern part of Wisconsin there is a difference in the economic status of counties and a surprising variation in the characteristics of the people. These things must be considered.

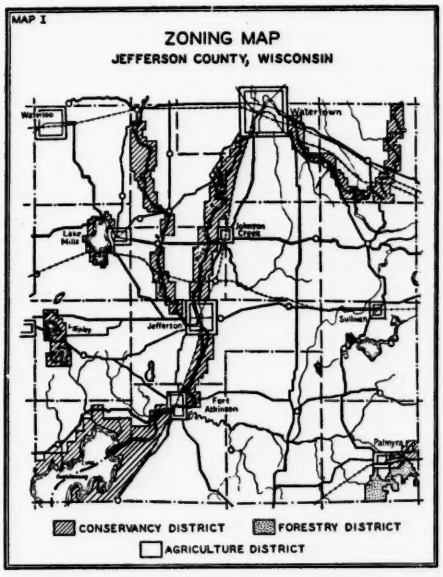
The zoning of counties is such a new thing to most local authorities that their reaction to such proposals is, generally, to attack the most obvious and pressing problems first, the idea being to develop and administer

such regulations as will, in the main, have popular support and then let this experience act as an educator in the value of planning, then to revise these plans upward as rapidly as such revision can be absorbed. This, in our opinion, is an excellent method of procedure. It makes for an understanding public and accedes to the desires of the community, both of which conditions are essential to successful administration. We find that local authorities are willing to receive and consider the suggestions of the State Planning Board staff and, by virtue of such cooperation, we are able to produce plans which are basically sound and workable, are susceptible to upward revision, and can readily be coordinated with the plans of adjacent areas.

The Jefferson County Ordinance

Jefferson County was the second to consider the idea but the first of the southeastern counties, outside of Milwaukee, to adopt an ordinance. Some of the problems here presented were (1) preservation of property values, represented by summer homes, (2) protection of the Rock River banks, (3) provision for future highway development, (4) establishment of sound land subdivision policies, and (5) encouragement of reforestation in the Kettle Moraine. The County Park Commission studied and discussed methods for accomplishing these ends for more than a year and frequently consulted the County Board and others interested.

Use Districts. Their zoning ordinance, as finally passed, divides the county into only three districts (Map I). The first, which is here called "Conservancy," is in fact a single-family residence district. Its boundaries include the entire reaches of the Rock and Crawfish rivers in Jefferson County and also the banks of some selected lakes where there is or may be considerable summer-home development. Minimum lot sizes and maximum building heights are established. A "Forestry District" was set up in the southeastern portion of the county where the Kettle Moraine, with its steep gravelly hills, cuts across its corner. The regulations for this district are such as to encourage reforestation of the land by permitting only residence uses, together with the harvesting of timber crops, nurseries, parks, and playgrounds. They apply in only one town and the citizens there already are discussing the improvement of the area. All of the remainder of Jefferson County (about 85% of its area) has been placed in an "Agricultural District." In this district the land may be used for practically any use except nuisances and minimum standards for tourist camps are set up and the location of taverns is controlled.



The land subdivision regulations for the "Forestry," "Conservancy" and "Agricultural" districts are the same, that is, a minimum lot area per family of 8,000 square feet is required with a minimum width of 80 feet. Another clause states that no tavern shall in the future be located less than 1,000 feet from any church, school, or residence. Tourist camps must provide 800 square feet of area for each car, trailer, or cabin and must be enclosed and comply with the regulations of the State Board of Health.

Flood-Plain Zoning. This ordinance contains a regulation not heretofore used in Wisconsin. The statutes provide that the counties may "regulate, restrict and determine the areas along natural water courses, channels, streams, and creeks in which the trades and industries, and the location of buildings for specified uses may be prohibited." This is a section of the zoning enabling act. Many of the lakes and streams in Southern Wisconsin are beginning to be quite thoroughly developed for industrial and residential use, particularly summer

cottages. Some of these streams are subject to heavy floods and in the past much damage has been sustained by these buildings, and in some cases demands have been made on public funds to offset damages accruing to such structures when they have been built in the face of known flood conditions. For this reason, the Jefferson County ordinance contains a clause which prohibits the future erection of any building with its basement floor below the high-water mark.[1] The high-water mark in this case is taken at the limit of the soil that is so affected by the water as to be marked with a nature and vegetation distinct from that of the banks (Webster's definition).

Setback Regulations. In addition to the use regulations, a comprehensive system of setback building lines has been set up for the whole county. The highways are divided into two classes, "A" and "B." The Class A highways are, generally, the state trunks and federal-aid roads. The setback line is established 100 feet from the center line. All other highways are classed as "B" and have a setback line 75 feet from the center line. At all grade crossings an additional setback is established which cuts the corner back at the highway 50 feet and 100 feet at railroad crossings.

Enforcement through Building Permits. It is proposed to administer the ordinance through the requirement of a building permit to be provided for by a separate ordinance now before the County Board of Supervisors. Such a permit is to carry no fee but the application states the location of the proposed building, the zone in which the land is located, the owner of the building, its size, type of construction, proposed use, location with respect to the building setback line, and any other pertinent information. The permit will be issued by the County Clerk and a report will be made by him to each local assessor showing the permits issued annually in each town. Provision is made for the revocation of a permit when the building is found to violate the terms of the zoning ordinance or is not in conformity with the information on the application. Suitable penalties are provided.

[1] This provision is general and county-wide and is not confined to any given district. This applies also to the setback regulations along highways. However, neither of these are in force in those towns which do not approve of the ordinance.

Conclusion

The State Planning Board feels that the major accomplishment in planning activity in southeastern Wisconsin to date has been the growth of "plan-mindedness" among the people themselves. It is a most significant fact that when town hearings were held in Jefferson County, as many as 100 people attended the meetings in several of the towns and a very intelligent interest was taken in the proposals. A most surprising fact was that there was very little, if any, criticism of the principles involved in zoning a county or in the desirability of establishing regulations for the use of land. The whole question has been one of what is to be regulated and how such regulations will help the community. The people themselves have arrived at the conclusion that it will help the community and, in accordance with that attitude, they have approved of the terms of the zoning ordinance as they were proposed.

J. M. Albers
Areal Planning Engineer,
Wisconsin State Planning Board

Tennessee Farm Tenure Activities

FORTY-SIX per cent of all farms in Tennessee are operated by tenants. Within the State, however, wide regional variations occur both in the extent and type of tenancy that prevails.

Tennessee tenants fall into three groups. (1) The share-cropper furnishes only his labor and is supplied by the farm owner with land, workstock, tools, and equipment. In addition, he is furnished with either cash or credit for practically all his needs. The share-cropper operates a parcel of land and, in the cotton and dark tobacco areas, usually receives ½ the crops for his year's labor. (2) The share-tenant usually owns his workstock and tools and pays the landowner a share of his crops for use of the land. The proportion of the crops paid varies within the State. The most usual rental in the cotton area is ¼ of the cotton and ⅓ of the corn, grain, and other feed crops. In the eastern part of the State the usual division of crops is ⅓ for labor, ⅓ for workstock, tools and seed, and ⅓ for use of the land. Tobacco

and truck crops are divided equally between share-tenant and landowner. The landowner, if furnishing land only, usually receives ¼. The expense for fertilizer, twine, and other such expense is divided in the same manner as the crop. (3) The cash renter pays a fixed amount of cash as rent.

Share-croppers are closely associated in Tennessee with cotton and dark tobacco production. In 1935 Tennessee had more than twice as many white as negro croppers and about the same number of white croppers as negro farmers of all tenures. The concentration of negro farmers in restricted areas in the cotton and dark tobacco regions and the general distribution of white croppers throughout the State tend to obscure these relationships and to overemphasize the lesser group.

The percentage of tenancy among negroes is considerably higher than among whites. This is particularly true in the cotton and dark fire-cured tobacco counties.

White farmers dominate both the cropper and the tenant groups, but negroes form a larger proportion of the cropper than of the tenant group. White tenants constitute 36.5% of all farm operators in Tennessee. Tenants of this group are widely distributed through the State, but the concentration is relatively less on the poorer lands.

Tennessee Farm Tenancy Trends

Tenancy has had its greatest growth in the South in those areas where plantation holdings were greatly disrupted by the Civil War. In the period of reconstruction, the cropper system was set up as a means of working southern lands with very limited funds and with labor that required constant supervision. The end of the war found planters with experience in management but generally without funds for paying wages to their former slaves. The slaves found themselves freed but with no funds or land and a dire need for supervision, as the habits of generations could not be swiftly changed. Gradually the cropper system has been extended to poor white farmers.

Increased production of cotton and tobacco has paved the way for an increase in numbers of croppers. Both of these crops increased greatly in Tennessee from 1880 up to the last few years. Coupled with this have been periods of business depression. The general depression of the '90's and the agricultural depression following the World War have been vital factors in increasing Tennessee tenancy.

If croppers, who are in reality farm laborers, are considered as farm operators, the percentage of farms operated by tenants and croppers in Tennessee has increased from 34.5% in 1880 to 46.2% in 1935. In 1880, 34.5% of the 165,560 farms were operated by tenants and croppers. In 1935, 46.2% of the 273,783 farms in Tennessee were operated by these groups. If croppers are considered as laborers, a fairer comparison results. Such a comparison shows 32.4% of all farms in Tennessee operated by real tenants in 1930 and 33.8% in 1935.

Although the general trend of tenancy in Tennessee has been upward since 1880, it has not always followed that of the United States. The ratio in Tennessee declined from 34.5% in 1880 to 30.8% in 1890 and remained almost static from 1900 to 1920 (40.6% to 41.1%), then increased to 46.2% in 1930 and remained about the same from 1930 to 1935. The percentage of tenancy in the United States has increased each decade since 1880.

Cash tenancy in Tennessee increased slightly from 34.0% to 36.7% between 1880 and 1890 but declined rapidly to a low of 10% in 1925 and has increased slightly since that time.

Recent trends in tenancy (i.e., 1930 to 1935) may be summarized as follows:

Tenure Group	Number		Percent Change
	1930	1935	
All tenants, including croppers	113,520	126,607	+11.5%
Share-croppers	50,304	51,477	+ 2.3
White	33,745	35,381	+ 4.8
Negro	16,559	16,096	− 2.8
Part-owners	21,673	21,656	—
White	—	19,964	+ 2.2
Negro	2,145	1,692	−21.1

Distribution of Types of Tenants

Cash tenants constituted 10.8% of all tenants in the State in 1930. In general, the proportion of cash tenants is highest in the part-time farming regions and in the areas around the four largest cities in the State.

Croppers comprise 40.7% of all tenants. Almost ⅛ of all croppers are negroes and nearly ½ of all negro farmers are croppers. This type of tenure is important in the cotton counties of west and middle Tennessee and in both the dark fire-cured tobacco counties of the Highland Rim and the

Burley tobacco counties of the upper East Tennessee Valley.

"*Other tenants*," of whom 15.4% were negroes, comprised 44.9% of tenants in the State in 1930.

Farm Tenancy Studies

Recognizing the need for factual data on the tenant problem as a basis for the development of an educational program, several studies have been made. These include a study of types of tenant areas[1] made by the Tennessee Experiment Station in which the location of the various types of tenure was established and comparisons drawn between areas. It was found that cash tenants are located chiefly in the industrial part-time farming areas around the larger cities. Nearly ⅛ of all tenants in Tennessee are related to their landlords. Tenancy in the western Highland Rim counties is tending toward stability, with inheritance playing an important part in farm ownership. Part-time farm renters tend to pay cash; 12½% of all farmers in Tennessee are negroes; of the negro farmers, more than ¾ are tenants.

Other studies have shown that[2] with less than ½ the farm operators as tenants, nearly ¾ of all employable farm operators on relief in 1935 were tenants. The difference in living standards of owners and tenants was greater among white than among negro farmers. Tenants generally have less education than farm owners. Of the relief clients, little difference was found in the education of owners or tenants. The relief rate among negro farmers was found to be less than among white farmers. In proportion to their total number, croppers were nearly twice as numerous on relief rolls as other tenants.

Extension Effort to Improve Tenancy

Educational work on landlord-tenant relationships is largely in the formative stage in Tennessee. Considerable data are being gathered from which it is hoped some concrete suggestions may be formulated. Basic data from farm management records have been accumulated by the Agricultural Extension Service for the last 12 years. These records show the more successful methods of farm operation in each type of farming area in the State. From these and other available information, definite agricultural programs are being evolved for each area. Financial records show that dependence on a cash crop system, such as cotton or tobacco, as a sole source of income on farms does not provide an ample standard of living for the farm family whether owner or tenant, nor does it permit under the present system the control of soil erosion or the maintaining of soil fertility. Studies are now under way to determine the various systems of landlord-tenant relationships which have promoted a well-rounded farm business, have resulted in reasonable returns to both landowner and tenant, and have conserved the soil fertility of the farm. By far the most outstanding result of these studies to date is the joint stock share lease.

Briefly, the joint stock share lease provides that tenants own the workstock and tools and ½ of the productive livestock, furnish all labor, and pay ½ of the other production expenses; the landowner furnishes land, buildings and improvements, pays the taxes and ½ of the farming expenses excluding labor, and receives ½ the proceeds from the farm. Obviously, this system requires a much higher than average type of tenant.

Farm business records kept by farmers in Tennessee show that the value of family living from the farm frequently amounts to as much as the products sold.[3] On many Tennessee farms this offers the most effective means of immediately increasing the family earnings. An intensive family food program, known as the "Live at Home Program," has and is being stressed in all areas of the State. In addition to the "Live at Home Program," negro men and women agents have been employed to work exclusively with negro farmers and farm women in the 10 cotton and tobacco counties where most of the negro tenants are located. That tenants as a group are responding to improved land-use practices is shown by the fact that between 1933 and 1937 they have increased the acreage of corn interplanted to soybeans and the seeding of lespedeza on crop land by more than 50%.

Landlord-tenant cooperation in soil building and the fitting in of additional sources of income are necessary if reasonable returns are to be secured by either party. A beginning toward this end has been made by

[1] "Types of Tenant Areas in Tennessee," Tenn. Agric. Exp. Sta., *Monograph* No. 73.

[2] "Farm Tenancy in Tennessee," Tenn. Agric. Exp. Sta., *Report* No. 17.

[3] *Tennessee Extension Bulletin* 210.

a small group of leading farmers in the cotton section in the interplanting of winter legume crops, principally vetch and Austrian winter peas, on cotton land. Several systems are being tried. Some planters are furnishing the seed, equipment, and fertilizer, and hiring the cropper to do the work. If the cropper stays on the farm the following year, he is charged with ½ the total expenses for the seeding of his land. If he wants to move away from the farm at the end of the year, he can do so without loss to himself, as he has been paid for his labor to date. The other system differs from the first only in that the cropper does the work for his share of the expenses.

Many tenants, if given a reasonable chance, can become not only farm owners, but good farmers. Many others, no doubt, are doing better as tenants on good farms, working under the supervision of good farmers, than they could do as farm owners. There are thousands of farm owners whose income, security, and living conditions are no more satisfactory than those of a vast number of tenants, and there are thousands of croppers who will continue to need the guidance of an overseer to earn a livelihood from the soil.

The Extension Service is working in close cooperation with the Farm Security Administration in Tennessee in establishing working rental agreements with their clients, based on desirable systems of farming in each agricultural area. Beginning in 1937 the local county agents and assistant county agents have cooperated with the FSA supervisors in locating desirable land for purchase under the Tenant Purchase Act, and in the working out of farm plans that will feed the farm family and the farm livestock, provide a reasonable cash income to meet the farm obligations, and build and conserve the fertility of the soil. During 1938, 17 farm planning schools have been held to date for small groups of county and home agents and FSA farm and home supervisors. At these planning schools an actual farm is studied in detail, both as to land resources and family requirements, and the basis for successful operation worked out. Extensive use is made of farm record data accumulated in that area in previous years. Proper land utilization, a sound and well-balanced farm business, and proved methods of business management including farm financing are considered. The objective is to train agricultural workers in a uniform approach for setting up adequate individual farm plans which will conserve soil resources, provide for the farm family needs, and meet the farmer's obligations.

The Tennessee Bankers' Association is cooperating by making the production of adequate food and feed a requirement for loans to both owners and tenants in the lower income groups. Certain member banks have also cooperated by putting out improved varieties of cotton seed, pure bred gilts, heifers, etc., to tenant farmers on liberal credit terms.

The three most formidable stumbling blocks in the way of improving landlord-tenant relationships in Tennessee are the one-year lease, lack of diversity in tenant farming, and the habit of landowners, tenants, and croppers of exploiting land and each other for immediate cash return.

A recent study shows that over ⅓ of all Tennessee tenants move each year. Such mobility is not conducive to accumulation of property and offers little incentive to the tenant to plan for soil-improving crops.

The Agricultural Conservation Program encourages a shift from cash cropping to a more diversified system of farming, emphasizing livestock production and the use of land for pasture and hay crops rather than cultivation in row crops. Yet under prevailing systems of land rental in Tennessee, most rent is based on a proportion of crop returns. Thus time spent in caring for livestock is time lost from the production of cotton and tobacco.

It seems that in Tennessee the approach should be largely along these lines: (1) a program of education involving the production and conservation of food and feed supplies and the introduction, adoption, and use of improved leases which will provide for a sharing of live stock proceeds as well as crop shares; (2) a longer term of leasing with provisions for land improvement which will protect the interests of both landlord and tenant; and (3) a strong and continuing program aimed at increasing ownership of farms by their operators.

H. C. Holmes and J. A. Elliott

Farm Management Department,
Cooperative Extension Work,
College of Agriculture,
University of Tennessee

Public Utilities Department

E. W. MOREHOUSE, *Editor*

The Federal Natural Gas Act

THE "Natural Gas Act,"[1] which gave the Federal Power Commission authority to regulate interstate transportation and interstate sale for resale of natural gas, was passed by the 75th Congress just before adjournment, and approved by the President on June 21, 1938. The important provisions of this act are briefly described as follows:

(1) The provisions of the act apply to the transportation of natural gas and to the sale of such gas for resale for ultimate public consumption, when done in interstate commerce, but do not apply to the local distribution of natural gas, or to the facilities for such distribution, or to the production or gathering of natural gas. The restriction of the provisions of the act to sales for resale apparently limits the possible conflict between federal and state regulation of natural gas utilities.

(2) All exportation and importation of natural gas to or from foreign countries are forbidden, except with the authorization of the Federal Power Commission, which may refuse permission if such exportation or importation is found not to be consistent with the public interest.

(3) All rates and charges for transportation or sale of natural gas subject to the jurisdiction of the Commission must be "just and reasonable," nor may any undue preference be granted to any person or any unreasonable difference in rates to different localities or classes of users be maintained. All rates for service subject to the act must be filed with the Federal Power Commission, and cannot be changed without 30 days' notice, except with the Commission's permission. With respect to new schedules filed, the Commission may suspend their application for a period not exceeding five months, pending investigation, except that this suspension power does not exist in the case of rates for resale for industrial use only. If increased rates go into effect at the end of a suspension period before the Commission's investigation has been completed, it may require a bond to be posted by the company and provide for refunds of any portion of such rates later found to be unreasonable. The burden of the proof of reasonableness of increased rates rests upon the company proposing the increase.

(4) If the Federal Power Commission finds any rate for natural gas subject to its jurisdiction to be unreasonable, the Commission is instructed to determine the reasonable rate and order this into effect. One rather curious exception to this authority exists in that the Commission has no power to order any increase in rates unless this is in accordance with a new schedule filed by the company. The purpose of this provision is not clear.

(5) The Commission has the power to determine costs of production or transportation of natural gas even in situations where it has no power over rates.

(6) The Commission may investigate and ascertain the "actual legitimate cost" of and the depreciation in the property of natural gas companies subject to its jurisdiction, and may require the filing of property inventories and statements of original cost.

(7) The Federal Power Commission is given authority to order extensions and interconnections of natural gas systems to serve communities or gas distributing corporations and municipalities immediately adjacent to the companies' systems, and to order the sale of gas to such communities and agencies, except that it cannot compel the enlargement of transportation facilities for such purposes, nor can such sales be compelled when to do so would impair the ability to provide adequate service to existing customers. This section of the act appears to be somewhat ambiguous, and the extent of the Commission's powers thereunder is not clear.

(8) No abandonments of facilities falling under this act may be made without Commission permission, and all new facilities to transport natural gas to a market already served with such gas must receive the Commission's approval before they can be constructed, acquired, or operated. The test to be applied in such cases is whether the public's "convenience and necessity" will be served.

[1] No. 688, 75th Cong., 2d Sess., H.R. 6586, c 556.

(9) The Federal Power Commission's jurisdiction over accounts and records of natural gas companies is complete, including the right to specify the accounting system, examine the records, and require the submission of data and reports on any phase of the companies' activities. It is provided, however, that companies subject to the act shall also keep all accounts and records required by state laws. The act also provides that the Commission has jurisdiction over and may examine the accounts and records of persons and corporations controlling natural gas companies, in so far as they relate to transactions with the gas companies.

(10) The federal commission is also given jurisdiction over depreciation accounts and practices, and may determine and prescribe depreciation and amortization rates. The act states that nothing in this section shall limit the powers of state commissions in this regard, and provides that the Federal Power Commission before prescribing depreciation rates shall notify all state commissions having jurisdiction and provide each with an opportunity to present its views.

(11) If two or more states propose compacts to Congress dealing with natural gas, the Federal Power Commission is directed to investigate the matter and make recommendations.

(12) Officers and directors of natural gas companies are forbidden to receive any money or thing of value in connection with the sale of any security of their companies, or to participate in the payment of dividends out of capital, other than liquidating dividends.

(13) States, municipalities, and state commissions may petition the Federal Power Commission in regard to any complaints they have against a natural gas company, whereupon the complaint is forwarded to the company, which is required to satisfy or answer the complaint. Several such complaints have already been made.[2]

(14) The Federal Power Commission is given authority to investigate all matters necessary for enforcement of the act and may require submission of records and testimony. The Commission is also given power in this section of the act to determine the adequacy or inadequacy of gas reserves, and to determine the reasonableness of the accounting treatment of delay rentals or other forms of compensation for unoperated gas lands.

(15) The Natural Gas Act specifically provides for cooperation between federal and state agencies by authorizing the Federal Power Commission to refer any matter it chooses to boards composed of members nominated by the public service commissions of the states affected, or by the governors where no commissions exist. Such boards shall have the jurisdiction and powers specified by the Federal Power Commission. The federal commission may also confer with any state commission regarding various matters, and may hold joint hearings. The Federal Power Commission is also instructed to make available to state commissions such information as may be of assistance to them, and to permit testimony by its experts when requested by state commissions.

(16) With respect to court review of Commission orders, the Act provides that no proceeding to review such orders may be brought unless application shall have been made to the Commission for a rehearing. No objections may be urged before the court that were not raised in the petition to the Commission for rehearing, unless there is reasonable ground for failure to do so. Findings of the Commission as to facts, if supported by substantial evidence, shall be conclusive. If a request is made to introduce new evidence, and the court finds that this is material and that there were reasonable grounds for failure to present the evidence before the Commission, the court may order the new evidence to be presented to the Commission, which may modify its findings and recommend modification of the original order.

Comparison of the Natural Gas Act with the Federal Power Act[3] indicates that the powers granted are in general similar in the two acts, although several significant differences may be noted. For instance, the Natural Gas Act omits the provision in the Power Act that federal regulation is "to extend only to those matters not subject to regulation by the states." However, the provisions of the Natural Gas Act indicate substantial compliance with this principle. In both acts

[2] City of Cleveland, FPC release No. 496; City of Akron, FPC release No. 498; Illinois Commerce Commission, FPC release No. 532.

[3] Federal Power Act (Washington: Government Printing Office, 1935).

federal jurisdiction is restricted to interstate transmission and interstate sales for resale.

The powers granted with respect to rates under the Natural Gas and Power Acts are couched in almost identical words, with the rather important exception that the two restrictions on the Commission's powers over rates already noted in the Natural Gas Act have no counterparts in the Power Act. These restrictions are that the power to suspend new schedules, pending investigation, for a maximum period of five months does not apply to rates for sales of natural gas for resale to industrial users, and that the Commission has no authority to require increases in existing natural gas rates.

The authority of the federal commission under the Power Act to require that adequate service be rendered is not contained in the Natural Gas Act.

The jurisdiction of the Federal Power Commission under the two acts to require extensions of plant to sell electricity or natural gas to other public service corporations is similar. The provision in the Natural Gas Act that the Commission shall have no authority to compel enlargement of transportation facilities to enable additional sales is matched in the Power Act by a restriction to the effect that enlargement of generating facilities may not be compelled. This circumstance may give a clue to the meaning of the provision in the Natural Gas Act. Under the Power Act the Federal Power Commission is apparently given no control over abandonments of plant or extensions to reach markets already served, such as are contained in the Natural Gas Act.

The Federal Power Commission's jurisdiction over accounts, records, reports, and depreciation practices appears to be identical under the two acts, except that under the Natural Gas Act the power to prescribe rates of depreciation and amortization is restricted to property "used or useful in the production, transportation or sale of natural gas," whereas in the Power Act this authority extends to all property of the public utilities under the Commission's jurisdiction. This difference is probably traceable to the existence of oil-producing and transportation properties owned by some natural gas companies, where it was not desired to extend jurisdiction over depreciation rates to the Federal Power Commission.

The section of the Natural Gas Act dealing with state compacts with regard to natural gas has no counterpart in the Power Act.

The provision forbidding officials of natural gas companies to receive any of the proceeds from the issuance and sale of securities of their companies is identical with a similar provision in the Power Act. The section of this latter act prohibiting interlocking directorships unless approved by the Federal Power Commission was not duplicated in the Natural Gas Act.

With respect to complaints by states, municipalities, and state commissions, the Natural Gas Act omits the provision in the Power Act that, if such complaints are not satisfied by the company, it shall be the duty of the Federal Power Commission to investigate the matters complained of.

The provisions of the Natural Gas Act relating to use of joint boards and to cooperation with state commissions are substantially identical with similar provisions in the Power Act.

The requirement in the Power Act that sales of property, mergers, and acquisitions of securities of other public utilities shall not be made without securing the permission of the Federal Power Commission is not provided in the Natural Gas Act. Neither is authority granted in the latter act over issuance of securities and assumption of liabilities by public utilities such as is contained in the Power Act.

It is interesting to note that the provisions of the Federal Power Act providing for forfeiture of $1,000 by public utilities for failure to comply with orders of the Commission or for failure to submit any data required, and by officers of utilities for failure to appear at hearings are not included in the Natural Gas Act, although the penalty provisions of the two acts are substantially identical.

BARCLAY J. SICKLER
Chief Statistician,
Public Service Commission of Wisconsin

Public Utility Financing in the Third Quarter of 1938

SECURITY offerings by public utility companies rose to approximately $328 millions during the third quarter of 1938 according to compilations made by the

writer. The total represents a large increase over the $240 millions recorded for the preceding three months' period and a very decided improvement over the small sum of $91 millions offered during the third quarter of 1937 when the securities markets generally were in the throes of a severe slump.

Increasing uncertainty during the latter part of the third quarter of this year with respect to the outbreak of war in central Europe undoubtedly operated to withhold offerings which might otherwise have been made. Current news of the period reflected this view which is indicated rather clearly by the monthly totals during the quarter. In July, August, and September the volume of offerings was $63 millions, $221 millions, and $44 millions, respectively. Furthermore, the September total consists principally of the $39 millions of Commonwealth Edison Company Debentures which were covered by a prospectus issued in August. Thus, the improvement which got under way in August was curtailed in September.

Proceeds from the sale of securities during the quarter were scheduled very largely for the purpose of refunding other bond issues, redemption of preferred stocks, and payment of bank loans, intercompany loans, and open account indebtedness. Although data necessary for an accurate estimate are not available, it appears that only about 10% of the total was raised to finance property additions and working capital requirements. The largest issue made solely for new capital purposes was $10,000,000 Public Service Electric and Gas Company 3¼s of 1968.

Private sales to large institutional investors, principally insurance companies, continued to be a noticeable feature of flotations during the period. Fourteen issues, aggregating $80 millions, were placed privately together with a portion of a fifteenth issue. Five of these sales involved issues ranging from $7,500,000 to $17,000,000, inclusive, in amount.

Long-term debt obligations, including one issue with serial maturities of one to ten years, accounted for all but two of the 31 offerings comprising the third quarter's volume of $328,426,100. The two offerings of stock amounted to only $1,327,200.

Long-Term Debt Financing. The 29 offerings in this category totaled $327,098,900. Private sales accounted for 14 of the issues and part of a fifteenth issue for a total of $81,432,000, thus leaving 15 issues, or $245,666,900, offered publicly. For record purposes the private placings may be listed as follows:

$17,000,000 West Penn Power Company First Mortgage, Series J, 3¼% Bonds due August 1, 1968;

$15,000,000 Detroit Edison Company General & Refunding Mortgage, Series G, 3¼% Bonds due September 1, 1966;

$14,350,000 Hackensack Water Company First Mortgage 3½% Bonds due 1968;

$9,515,000 Yonkers Electric Light & Power Company 3½% Debentures due in 1950;

$7,500,000 East St. Louis and Interurban Water Company First Mortgage, Series A, 4¼% Bonds due June 1, 1953;

$3,000,000 Northern Natural Gas Company 4½% Debentures due July 1, 1948;

$3,000,000 Diamond State Telephone Company 3% Debentures due August 1, 1968;

$2,800,000 San Diego Water Supply Company First Mortgage 3¼% Bonds due November 30, 1955;

$2,500,000 Wisconsin Public Service Corporation First Mortgage 4% Bonds due June 1, 1963;

$2,375,000 Buffalo Niagara Electric Corporation General and Refunding Mortgage, Series D, 3¼% Bonds due August 1, 1968;

$1,500,000 Lawrence Gas and Electric Company First Mortgage, Series A, 3⅛% Bonds due July 1, 1968;

$1,100,000 Southwestern Bell Telephone Company First and Refunding Mortgage, Series C, 3% Bonds due July 1, 1968;[1]

$950,000 Middle States Telephone Company of Illinois First Mortgage 4¼% Bonds due July 1, 1963;

$742,000 Rockland Light and Power Company First and Refunding Mortgage, Series B, 3¼% Bonds of 1961; and

$100,000 Cohasset Water Company 4% Bonds of 1963.

Twelve of the 15 long-term debt issues offered publicly during the third quarter of 1938 are analyzed in detail in Table I.[2] These 12 issues total $239,906,900 and thus represent 73% of all flotations made during the period. However, the importance of issues placed privately should not be minimized

[1] Part of a $30,000,000 issue; balance sold to the public (see Table I).

[2] Two small issues are excluded because of incomplete data. These are: $100,000 Pinellas Water Company First Mortgage, Series B, 5¼% Bonds due September 1, 1959, offered at par and $160,000 Corona City Water Company First Mortgage 4% Bonds due September 15, 1958, offered at 99½ (offering restricted to residents of California). In addition, Table I omits $5,500,000 Indianapolis Power and Light Company Serial Notes (3, 3½ and 4%) due August 1, 1939–1948, offered at prices ranging from 98 to 101⅞.

even though they represent a smaller portion of the total volume. On the basis of the number of issues, private sales were equal to public offerings if the stock issues are excluded from the count.

The weighted averages computed in Table I are well in line with the corresponding measures of public utility financing during preceding quarters of the last three calendar years. The average coupon rate of 3.50% is slightly lower than any heretofore recorded and the average yield and cost measures, 3.48% and 3.58% respectively, are among the lowest. Underwriters' commissions averaged 1.80% and were lower only in the second quarter of 1938, but this measure is affected, as to comparability, by the inclusion of the Commonwealth Edison Company Debentures, as more fully discussed below. The average of 0.74% for incidental expenses is well within the range previously found for this item.

The largest financial operation during the quarter was undertaken by Commonwealth Edison Company in offerng $33,000,000 of additional Series I bonds and $39,467,900 of additional convertible debentures. Stockholders of record as of September 2, 1938 (other than Commonwealth Subsidiary Corporation) were given rights to subscribe for the debentures at the rate of $5.00 principal amount per share of stock held. The number of shares so outstanding made possible an issue of $39,467,990[3] of which amount $38,332,500 was subscribed for through the exercise of rights. The underwriters had agreed to take unsubscribed debentures up

[3] Adjusted downward by $90 because of a minimum denomination of $100.

TABLE I. SUMMARY AND ANALYSIS OF LONG-TERM DEBT ISSUES OFFERED PUBLICLY, THIRD QUARTER, 1938*

Company and Issue (A)	Coupon Rate (B)	Principal Amount (C)	Maturity Date (D)	Month of Offering (E)	Offering Price† (F)	Offering Yield (G)	Underwriters' Commissions† (H)	Proceeds to Company† (I)	Estimated Incidental Expenses† (J)	Net Proceeds‡ (K)	Cost to Company‡ (L)
	%				%	%	%	%	%	%	%
Commonwealth Edison Co.											
Debentures§	3½	$39,467,900	7-1-58	September	100.00	3.50	1.02	98.98	0.88	98.10	3.63
First Mortgage, Series I	3½	33,000,000	6-1-68	August	103.50	3.32	2.00	101.50	0.44	101.06	3.44
Indianapolis Pr. & Lt. Co.											
First Mortgage	3¾	32,000,000	8-1-68	August	100.00	3.75	2.00	98.00	0.87¶	97.13	3.91
Toledo Edison Company											
First Mortgage	3½	30,000,000	7-1-68	August	101.50	3.42	2.00	99.50	0.59¶	98.91	3.56
Southwestern Bell Telephone Co.											
First & Ref. Mortgage, Series C	3	28,900,000	7-1-68	July	100.00	3.00	2.00	98.00	0.69	97.31	3.14
New York Steam Corporation											
First Mortgage‖	3½	27,982,000	7-1-63	August	100.00	3.50	2.00	98.00	1.00	97.00	3.69
Lone Star Gas Corporation											
15-Year Sinking Fund Debentures	3½	20,000,000	8-1-53	August	102.00	3.33	2.00	100.00	0.64	99.36	3.56
Gulf States Utilities Company											
First Mortgage & Ref.	4	10,000,000	10-1-66	August	104.00	3.77	2.00	102.00	0.80	101.20	3.93
Public Service Elec. & Gas Co.											
First & Ref. Mortgage	3¼	10,000,000	7-1-68	August	104.75	3.00	2.00	102.75	0.50	102.25	3.13
Toledo Edison Company											
Sinking Fund Debentures	4	6,500,000	7-1-48	August	100.75	3.91	0.50	100.25	0.59¶	99.66	4.04
Rochester Gas & Electric Corp.											
General Mortgage, Series I	3½	1,657,000	9-1-67	July	104.00	3.28	2.00	102.00	2.18	99.82	3.51
California Water & Telephone Co.											
First Mortgage	5	400,000	9-1-65	August	100.00	5.00	3.50	96.50	1.86	94.64	5.38
Weighted Averages Totals**	3.50				101.25	3.43	1.80	99.45	0.74	98.71	3.58

* See footnote 2 in the text.
† Expressed as a percentage of the principal amount shown in column (C).
‡ Computed on a bond yield basis using net proceeds per column (K).
§ See text for explanation of details of computation.
¶ Pro rata share of expense on two issues.
‖ Guaranteed as to principal and interest by Consolidated Edison Company of New York, Inc.
** Totals, which represent summation of actual amounts, are: principal amount, $239,906,900; offering price, $242,901,930; underwriters' commissions, $4,318,955; proceeds to company, $238,582,975; estimated incidental expenses, $1,771,649; net proceeds, $236,811,326.

to a total of $39,250,000 and thus actually took $917,500 principal amount (to be sold in part at market prices). The balance of $217,990[4] was retained by the Company to be marketed by it after November 30, 1938 (or sooner with permission of the underwriters) at the market but at not less than 100. The offering price of 100 shown for the debentures in Table I applies to the amount subscribed for through exercise of rights, but as here indicated different prices may apply to the balance of the issue. Also, strictly speaking, the amount of the issue as regards the third quarter of 1938 was less than the $39,467,900 given in Table I by the $217,900 retained by the Company. On this issue underwriters received a commission of 1% of the $39,250,000 underwritten plus 1% additional on the $917,500 actually taken up by them. The total ($401,675) divided by the principal amount of $39,467,900 listed in Table I results in an overall rate of 1.02% for such commissions. This rate, because of the character of the distribution, is of course not strictly comparable to the rather uniform commission of 2% paid on the other major flotations during the quarter.

Other Financing. Other than the long-term debt issues discussed above, the third quarter's financing consisted of two stock offerings. These were: 8,772 shares ($877,200) of New York & Queens Electric Light & Power Company 5% Non-Cumulative Preferred Stock offered to stockholders at par ($100) and taken largely (8,629 shares) by the issuer's parent, Consolidated Edison Company of New York, Inc., and 45,000 units ($450,000) each consisting of one common and one Cumulative Convertible Preferred share of Gulf Natural Gas Corporation. In addition, in its prospectus covering the $20,000,000 of debentures, Lone Star Gas Corporation referred to $11,300,000 of new bank loans used principally to retire similar loans. This item, however, was not included in the volume of financing recorded for the period under review.

E. D. OSTRANDER
Supervisor, Rates and Research Section, Illinois Commerce Commission

[4] See footnote 3 above.

An Appraisal of Edison Electric Institute's Statistics on Farm Electrification

THE meat of EEI's statistics on the number of electrified farms is contained in summary Table 10 of its *Statistical Bulletin*, No. 5.[1] This table, reproduced here as Table I, reveals the trend in the number and percentage of electrified farms in the United States. Other tables contain similar information by states. Elsewhere in this *Bulletin* are statistics of kilowatt-hour and dollar-volume of electric sales to farm customers. With these sales figures we shall be less concerned here than with the data indicating the number of farms served.

Table I shows the trend in farm coverage from an estimated 100,000 farms served in 1919 to the 1,241,505 connected at the end of 1937. Inasmuch as the number of farms in the United States has displayed no such decided upward trend during this period, the gain in electrified farms represents almost entirely an increase in saturation. The greater part of this extension of electric facilities occurred in the late twenties when an average of 75,000 farms were connected per year, and in the three years since 1934.

In 1937, 150,000 farms were added to utility and REA lines compared with gains of 100,000 in 1936 and 45,000 in 1935.[2] This

[1] "The Electric Light and Power Industry in the United States," *Statistical Bulletin* No. 5, Publication No. F4 (April, 1938).

[2] Frequent reclassifications and revision in EEI's published statistics have obscured the trend. Below are shown the annual gains as currently reported by EEI, with reclassifications and revisions eliminated.

The number of new farm connections probably lies somewhere between these two sets of figures. The first column admittedly includes reclassified items. The second excludes some adjustments which represent true gains.

NUMBER OF FARMS ADDED TO LINES EACH YEAR*

Year	As Currently Shown by EEI	Reclassifications Eliminated
1934	30,396	20,396[a]
1935	133,841	44,841[b]
1936	165,129	100,000[c]
1937	198,581	150,000[d]

* See Table I below.
[a] See footnote j, Table I.
[b] See footnote k, Table I.
[c] See footnote l, Table I.
[d] See footnote m, Table I.

1937 construction, most of it by utility companies, brings the total number of electrified farms in the United States as of December 31, 1937 to 1,241,505. This is 18.2% of the total number of farms as reported in the 1935 Census of Agriculture or, as EEI prefers to put it, 19.3% of all farms having occupied dwellings and 28.7% of all farms having occupied dwellings valued in excess of $500. EEI estimates that another 282,300 farms are now within "reasonable connecting distance to distribution lines but are not taking service."[3]

As may be expected, saturation is far from uniform in all parts of the nation. Highest percentage of farms served is in the Pacific region (70% of occupied farms electrified), followed by 53% in New England, and 50% in the Middle Atlantic region. Four of the mountain states west of the Rockies have a high percentage of farm electrification—namely, Utah with 73.9%; Idaho, 48%; Arizona, 39%; and Nevada, 37.9%. The next highest saturation occurs in the East North Central area, with an average coverage of 32.5%. Individual states in the Southern and West Central Groups range for the most part between 2.4% (Mississippi) and 12.7% (Florida), based on number of occupied farms. In the southern states the percentage is doubled if farms having dwellings valued at less than $500 are eliminated from the base.

The current national drive on rural electrification has drawn special attention to EEI's statistics on electrified farms. Originally prepared primarily as reference data for utility executives interested in load-building, they are now of more universal interest as a measure of the extension of electric service into rural areas. At one time, and perhaps still, the REA based its minimum allotments to the several states in part upon EEI's count of farms not electrified.

Statistics issued by EEI purport to cover 100% of the electric industry, including "all private and public enterprises which supply electric service direct to customers."[4] EEI receives reports from some 400 companies and publicly-owned plants representing about 90% of the industry. These are projected on the basis of such reports as are available from state and federal and other published sources to cover 100% of the industry.[5] Not included in the EEI farm statistics are individual home-lighting plants, estimated by EEI to number 249,342 in 1930, or 4.1% of total farms as reported in the 1930 census.[6]

As the trade association for the electric light and power industry, the EEI and its predecessor, National Electric Light Association, have for more than a decade published the most inclusive and continuous statistics of this comparatively new industry. The NELA established its Statistical Committee in 1925.[7] In 1928 the Committee recommended the collection of "customers, kilowatt-hour sales and revenue for service to farms and the adoption of the United States Census definition of a 'farm' for distinguishing between farm and non-farm homes."[8] Data on the number of electrified farms was made available soon after. Delays followed in establishing statistics of rural sales, however, until companies could establish necessary primary records.[9] As recently as 1926, for

[3] EEI release August 26, 1937. An estimate of only 125,000 was made in *Statistical Bulletin* No. 4, January, 1937, p. 18.

[4] *Statistical Bulletin* No. 5, p. 1.

[5] In 1932 the NELA, predecessor of EEI, calculated that 2.9% of farm customers were served from municipal plants, then the principal form of publicly-owned establishment:*

	Number	Percent
Farms served by utilities.....	688,574	97.1%
Farms served by municipal plants.	20,875	2.9
	709,449	100.0%

* 1932 Census of Electrical Industries, Central Electric Light and Power Stations, adjusted by NELA to "conform with subsequent data published by other federal and state agencies." See *Statistical Bulletin* No. 4, p. 28.

[6] NELA Rural Electric Service Committee, "Progress in Rural and Farm Electrification," p. 8. The 1930 Census of Agriculture enumerated farm homes lighted with electricity as of April 1, 1930, and farms which made expenditures to a power company in 1929. The difference between these two figures amounting to 270,303 corrected for a trend increase in wired homes during the first three months of 1930 yields the count of home lighting plants shown above. NELA attempted to keep this figure up to date but had to abandon the effort because of lack of information on the retirement of home plants. The last estimate made in 1934 showed 260,000 home lighting plants.

[7] *Statistical Bulletin* No. 4, p. 26.

[8] *Ibid.*, p. 29.

[9] *Ibid.* NELA *Statistical Bulletin* No. 2 (June, 1928), p. 5 contained farm service data for 72 companies "which had been able to keep separate records of their actual performance."

example, less than 40% of the industry was in a position readily to segregate so important a class as residential sales from other sales.[10] Accordingly, farm sales were at first combined with domestic sales in the area approximately east of the 100th meridian, and with commercial sales (because of the prevalence there of a heavy irrigation pumping load) west of the 100th meridian. By 1937 EEI could report that sufficient returns were being received to permit it to show farm sales as a separate and distinct class. In addition, on the basis of other records, the series was worked back to 1926.[11]

Statistical difficulties inherent in the collection of data on the number of electrified farms and on farm sales must be obvious. The EEI relies upon voluntary reporting by member companies which constitute the bulk but not all of the industry. More of an obstacle, however, has been the diversity of company statistical practice.

How, for example, have reporting companies defined "farm customers"—according to the census definition, the definition contained in the classification of accounts used by the company, or that provided by the rural rate schedules? Does their count of farms include farms located in urban rate areas or which for some other reason are served on non-rural rates? How have reporting companies treated non-farm users in rural areas, such as rural residences, filling stations, taverns, factories, gravel pits, municipal pumping plants, schools, churches, and other public buildings? How do they treat part-time farms and seasonal users? EEI has not so far provided any such detailed explanation regarding the character of its statistics.

Farm sales have been in the past, and still are, such a relatively small part of most companies' business that establishment of separate records pertaining solely to farm sales has scarcely been worth the cost. Most farm data have usually been fragmentary by-products of records maintained for other principal purposes.

Undoubtedly, utility revenue accounts have been the most frequently used source of information on farm customers and sales. The former National Association of Railroad and Utilities Commissioners classification of accounts which was in general use from 1922 to 1937 made no provision for segregating farm or rural sales. Nevertheless, many states and companies established a subaccount for rural sales.[12] The contents of this account were often not precisely enough defined or their use was insufficiently supervised to yield accurate statistical records.

The new NARUC classification of accounts, also prescribed in substantially similar form by the Federal Power Commission, has established a rural sales account to which shall be credited "revenues for electric energy supplied to rural and farm customers and billed under distinct rural or farm rates." At the same time in its Annual Report Form No. 1 FPC defines rural sales as "service to communities smaller than 250 population or service to customers billed under distinct rural or farm rates." Such a definition of rural sales based upon rate schedules is not new but its continuance is not likely to be helpful. Most farm and rural customers are served on urban rates.[13]

In response to the present emphasis on farm service, as opposed to rural, many companies are keeping separate primary records of farm service also. REA cooperatives likewise segregate farm from other classes of service. Lacking a separate subaccount, farm sales and customers can be derived from rural sales only by making appropriate adjustments, in which the non-farm rural are eliminated and the farm sales recorded with urban sales are added.

Confusion in the definition of "farms" has by itself added a substantial element of un-

[10] *Ibid.*, p. 16.

[11] *Ibid.*, p. 29.

[12] In Illinois many, if not most, utility companies have on several occasions indicated their inability to furnish data on the number of farms to which they render electric service. Their closest approximation to farm service is the "rural sales" account. A few of the major utilities have recently arranged their accounting practices to reflect only farm sales in this account, but others including some which occupy sizable rural areas apparently are unable to segregate rural sales into farm and non-farm classification. (See, for example, returns filed with the Commission on schedules E8 and E21 of Annual Report Form 11, 1937.) As a result, Illinois' rural sales data include farm and other sales in rural areas, except industrial and some commercial. Farms located in urban rate areas or for other reasons on urban rates are supposedly classified with general residential sales accounts.

[13] Because of the difficulties encountered in changing to the FPC-NARUC classification of revenue accounts in the monthly reports for 1938, EEI indicates that it has been unable to show currently the sales made to farm customers.

certainty to the statistics. Although the census definition had been adopted by the NELA Statistical Committee in 1928, its use by all operating departments was doubtless never properly supervised. The census definition is a specialized one not identical with common terminology and in some instances yielding results substantially at variance with everyday conceptions of a farm. Perhaps this difficulty of definition, together with that of accounting, is back of many of the EEI's recent transfers from residential to farm statistics (see footnotes l and m to Table I.) Whether errors of classification were at all compensating for each state and for the United States is very much open to question.

To its credit, the EEI has been willing to revise its data upon securing newer and more satisfactory information. These revisions have been rather frequent in the case of rural statistics.

TABLE I. FARM ELECTRIFICATION[a]

As of Dec. 31	Number of Farm Homes			Farms Using Electricity			
					Percent Electrified		
	Number All Farms	Farms with Occupied Dwellings	Farms Having Dwellings Valued in Excess of $500	Number Electrified	Based on Total Farms	Based on Occupied Dwellings	Based on Dwellings in Excess of $500
1919	6,448,343[b]	—	—	100,000[h]	1.6%	—	—
1920	—	—	—	—	—	—	—
1921	—	—	—	—	—	—	—
1922	—	—	—	—	—	—	—
1923	—	—	—	177,561	—	—	—
1924	6,371,640[b]	—	—	204,780	—	—	—
1925	—	—	—	246,150	3.9	—	—
1926	—	—	—	309,125	—	—	—
1927	—	—	—	393,221	—	—	—
1928	—	—	—	506,242	—	—	—
1929	—	—	—	576,169[i]	—	—	—
1930	6,288,648[b]	5,954,194[c]	3,860,198[c]	649,919	10.4	10.9%	16.8%
1931	—	6,071,167[d]	3,977,173[e]	698,786	—	11.5	17.6
1932	—	6,188,144[d]	4,094,148[e]	709,449	—	11.5	17.3
1933	—	6,305,119[d]	4,211,123[e]	713,558	—	11.3	16.9
1934	6,812,350[b]	6,422,088[b]	4,328,092[e]	743,954[j]	10.9	11.6	17.2
1935	—	6,422,088[f]	4,328,092[g]	877,795[k]	—	13.7	20.3
1936	—	6,422,088[f]	4,328,092[g]	1,042,924[l]	—	16.2	24.1
1937	—	6,422,088	4,328,092	1,241,505[m]	—	19.3	28.7
June 30, 1938	—	6,422,088	4,328,092	1,330,997[n]	—	20.7	30.8

[a] EEI *Statistical Bulletin* No. 5 (April, 1938), Table 10. This table carries the following subtitle: "Figures on electrified farms do not include those with individual lighting plants." The following footnotes pertaining to this table are supplied by the present author.

[b] U.S. Census of Agriculture, as of January 1, for 1920, 1925, and 1935, and April 1 for 1930.

[c] Credited by EEI to the U.S. Census.

[d] Interpolated by EEI (see *Statistical Bulletin* No. 4, p. 18, 1937). The inter-census increase was divided equally over the intervening years (for each state as well as the United States) yielding an annual gain of approximately 116,975.

[e] Interpolated by EEI, apparently by adding to the 1930 census figure the entire annual gain of approximately 116,975 interpolated for the number of farms with occupied dwellings, as per footnote d above.

[f] Formerly shown by EEI as 6,462,175 for 1935 and 6,502,280 for 1936, probably representing EEI's estimate of trend (see EEI *Statistical Bulletin* No. 4, p. 18). Beginning with the statistical supplement issued December 15, 1937 trending was abandoned in favor of the 1935 census count.

[g] Originally shown as 4,368,179 in 1935 and 4,408,284 in 1936 (see *Statistical Bulletin* No. 4, p. 18), representing all of the approximately 40,000 annual increase formerly attributed to farms with occupied dwellings, as per footnote f above.

[h] This estimate credited to the U.S. Department of Agriculture, Bureau of Public Roads. See EEI *Statistical Bulletin* No. 4, p. 18.

[i] This U.S. Census of Agriculture figure (adjusted for Alabama) was accepted by EEI in place of its own earlier figures.

[j] Adjusted upward in a statistical release dated February 21, 1935 with the following explanation: "Includes an additional 6,000 farms in Pennsylvania and 4,000 in Illinois to adjust for more complete survey." The Illinois adjustment, for example, was based upon a survey conducted by the Department of Agricultural Engineering of the University of Illinois tabulating 29,330 electrified farms at a time when the corresponding EEI figure was 25,270 (December 31, 1933).

[k] Originally reported as 788,795 (EEI release dated March 2, 1936).

[l] Includes "reclassification of 30,300 farms formerly classified as residential" first noted in statistical release dated August 13, 1936 and a further and more substantial year-end reclassification from the 915,000 total electrified farms originally reported in *Statistical Bulletin* No. 4, January, 1937, p. 18. EEI *Bulletin*, March, 1937, p. 87, states that "about 100,000 new connections were made during the year 1936 and it is evident, therefore, that the large addition shown in the year-end reports [by utility companies to EEI] was due to reclassification of customers."

[m] EEI *Statistical Bulletin* No. 5, p. 12, states: "As has been true in the past several years, this over-all farm figure includes a reclassification, as farm customers, of certain customers formerly considered residential. It is conservatively estimated that 150,000 farm homes received electric service for the first time in 1937 of which some 85% were connected to lines of the private companies."

[n] Includes 75,000 farms served by REA plants, of which 25,000 were added in the first six months of 1938.

The first satisfactory official benchmark was the 1930 Census of Agriculture in the course of which enumerators asked each farmer whether he was served with electricity from an electric light and power company. The census count of farms served with electricity as of December 31, 1929 was 571,007. NELA adjusted the returns for Alabama which it states were "apparently tabulated in error by the Bureau" and raised the total to 576,168, which figure it adopted for all future use.[14] This compared very closely with NELA's estimate of 560,426.[15] Previous census data, incidentally, have not proved satisfactory. The 1927 Census of Electrical Industries, in EEI's estimation, failed to yield a sufficiently high count of electrified farms because of the reporting companies' failure to "keep a separate classification of such service."[16] Thus the 1927 Census counted 168,450 electrified farms, contrasted with the NELA's 393,221.[17] Similarly, in 1932, the Census of Electrical Industries counted 613,753 electrified farms, and the NELA 705,075.[18]

NELA adopted the 1930 Census of Agriculture's count of farms having electric service and revised all previously published data accordingly. Its earlier data, although based upon the best records then available, had been frankly labelled as "approximate estimates."[19]

Since 1930 EEI has made several further revisions which were generally, if not always, upward. Because few of these revisions were carried back through preceding years, the entire series has been given an upward bias. These recent revisions have been made from two principal sources: (1) more complete segregation by utility companies of their farm customers, and (2) special statistical surveys conducted by utilities or other organizations. Thus in 1934, 6,000 farms were added in Pennsylvania and 4,000 in Illinois "because of a more complete survey" (see footnote j to Table I). In 1936 many companies undertook a reclassification of their farm and residential customers in the light of the 1935 Census of Agriculture. Although this Census had not included an enumeration of electrified farms, it had revealed a substantial gain in the total number of farms. In attempting to gear its methods to those of the Census Bureau, EEI advised cooperating companies that they had been conservative in "considering a farm as a somewhat larger and more self-sustaining unit than many of those classified as farms by the Bureau of the Census."[20] Accordingly, EEI's June 30, 1936 statistics of electrified farms contained an upward adjustment totalling 30,300 in eight states, representing a transfer from urban classifications.[21] Reporting companies sent EEI sufficient further reclassifications in their 1936 year-end statements to warrant EEI increasing its preliminary figure of 915,000[22] to a final figure of 1,042,924. Part of these adjustments was later carried back to 1935.[23]

In the denominator employed for its calculation of the percentage of farms electrified, EEI has likewise made several revisions. Statistics used in the denominator have always been those supplied by the Census of Agriculture. Hence the changes have not arisen from revisions in the primary data, but from (1) changes in the farm series used for denominator, and (2)

[14] EEI memo on farm service sent to cooperating companies, January 3, 1935.

[15] NELA, *Statistical Supplement to the Electric Light and Power Industry in the United States*, revised to January 1, 1930, p. 22. Incidentally, another estimate of 558,000 appears elsewhere on this same page.

[16] EEI memo on farm service to cooperating companies, January 3, 1935.

[17] EEI, *Statistical Bulletin* No. 9, August, 1933, p. 4.

[18] *Ibid.* This contemporary figure has since been raised by EEI to the 709,449 reported in Table I herewith. Commenting on the 1932 Census, EEI (memo on farm service sent to cooperating companies, January 3, 1935) said: "There are certain states in which the information reported in the 1932 census is high, due to the 'stated' fact that the data included 'rural' service."

[19] See NELA *Statistical Supplement to the Electric Light and Power Industry in the United States*, Supplement to NELA Publication 289–14 (1929), p. 22, table headed "An estimate of the number of farms served by electric light and power companies." The table contains data for the three years 1923, 1926, and 1928. The 1923 and 1926 information was "as estimated by the Rural Service Committee at that time." For 1928, information on 32 states was "estimated by the Rural Electric Service Committee" (see its report of May, 1929), and 12 states "estimated by NELA statistical research department on basis of degree of electrification in similar neighboring states." Four states were "estimated by same from annual statistical reports."

[20] EEI Bulletin, March, 1937.

[21] EEI statistical release, August 13, 1936.

[22] *Statistical Bulletin* No. 4, p. 18.

[23] See EEI statistical release dated March 14, 1938 and supplement to *Statistical Bulletin* No. 4, December 15, 1937, p. 7.

employment of interpolations for inter-census years.

EEI's early practice was to derive its percentages from the *total* number of farms as reported by the census. Beginning with its statistical release dated March 2, 1936, a percentage based on farms with dwellings valued at $500 or more was used for the first time. In its statistical release dated August 18, 1936, EEI introduced another percentage based on "farms having occupied dwellings." The present practice in all but the comprehensive annual statistical bulletins is to carry only these latter two percentages based upon occupied farms and farms having dwellings valued at more than $500.

That the employment of these latter two more refined denominators has made its percentages more meaningful can scarcely be denied. Unoccupied farm dwellings are seldom potential electric users, except in the western irrigated lands. Perhaps use of electricity for irrigation pumping on farms without a dwelling is one reason back of California's superlative figure of 104.4% electrification based upon dwellings valued at more than $500.[24] While the value of farm buildings is by no means a sure indication of the ability of the occupants to install and use electricity, doubtless considerable correlation exists between low-income farms and the number of farms not having electric service.

Between 1925 and 1935 all percentages had been calculated on the basis of the number of farms reported by the 1925 and 1930 Census of Agriculture. When the 1935 Census of Agriculture appeared with its substantially increased count of farms, EEI naturally employed this new figure for its 1935 percentage and then abandoned its previously published percentages in favor of new ratios calculated from its own interpolations of the number of farms for the inter-census years.[25] In 1936 and 1937 EEI continued to trend the 1935 census figure on occupied farms, although with an annual increase of only about 40,000 as compared with approximately 117,000 revealed by the census for the 1930–35 period. In late 1937, however, it abandoned the trending of the 1935 census[26] and returned to the use of its 1935 figures for this and all subsequent years.[27]

By and large, EEI's statistics of farm electrification have afforded a useful measurement of trend and comparative development in various sections of the United States. EEI would undoubtedly be the first to admit the existence of a certain margin of error in its data. They should not be regarded, for example, as a precise measurement of the number of electrified farms in any one state. Nevertheless, no other agency has published better statistics despite the continued public interest in rural electrification. Utility companies, which still do the vast bulk of the farm business, make statistical reports to several state and federal agencies, together with EEI, and perhaps other unofficial bureaus. Their burden of reporting would be lightened if all the collecting agencies could agree on objectives, definitions, and methods of collection. Moreover, the coordination of state, federal, and private statistical efforts would yield substantially improved data. The REA cooperatives should also be invited to participate in this coordinated statistical picture. It is hoped that the published results of the 1940 Census of Agriculture will include more elaborate tabulations of farm electric facilities.

WARREN H. MARPLE
Executive Secretary, State Rural Electrification Committee and Assistant to the Executive Officer, Illinois Commerce Commission

[24] *Statistical Bulletin* No. 5, p. 13.

[25] *Statistical Bulletin* No. 3 carries these interpolations and new percentages on p. 4.

[26] Supplement to *Statistical Bulletin* No. 4, December 15, 1937, p. 7.

[27] Perhaps the substantial increase in the 1935 census count of farms encourages EEI in the belief that the 1940 Census of Agriculture will reveal no further increase. For spicy comment on the 1935 census count of farms, see EEI *Statistical Bulletin* No. 3, p. 3.

Index to

THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

VOLUME XIV

February, 1938—November, 1938

LEADING ARTICLES

The Agricultural Adjustment Act of 1938: A Symposium. Lloyd S. Tenny, B. H. Hibbard, O. B. Jesness, Helen C. Monchow, Edward A. O'Neal and L. J. Taber....162–165

ALLEN, H. K. Forfeiture of Real Property Rights through Tax Delinquency....382–387

BAUER, JOHN. Important Public Utility Decisions by the Supreme Court and Their Public Implications. 1–9

BEACH, ROBERT C. Are Twenty-Year Mortgage Loans Safe?.... 19–25

BELLMAN, HAROLD. Business Recovery and the Housing Program in Great Britain....111–119

BERNHARD, RUSSELL SHERMAN. Tax Receivership: Five Years of Experience in Chicago....417–430

BRIDEWELL, DAVID A. Land Title Examination: An Appraisal (Horace Russell, co-author)....133–146

———. Mortgage Law and Mortgage Lending (Horace Russell, co-author)....301–321

BUTTENHEIM, HAROLD S. Land Reserves for American Cities (Philip H. Cornick, co-author)....254–265

CHERINGTON, CHARLES. Railroad Abandonment in New England, 1921–1937....40–55, 191–200

CLINE, DENZEL C. An Object Lesson in Tax Sharing: The Distribution of Public Utility Tax Revenues to Municipalities in New Jersey....284–300

COOKE, GILBERT W. The North Dakota Rural Credit System....273–283

CORNICK, PHILIP H. Land Reserves for American Cities (Harold S. Buttenheim, co-author)....254–265

COVER, JOHN H. The House That Franklin Built...235–245

DREIMAN, LAWRENCE S. The Winnipeg Municipal Electric Utility: I. Rate Policy and Rates Charged. 388–401

FLETCHER, ALFRED H. Problems of a Housing Enforcement Program (L. M. Graves, co-author)...182–190

GAGE, DANIEL D., JR. The Land Title Underwriter. 56–65

GRAVES, L. M. Problems of a Housing Enforcement Program (Alfred H. Fletcher, co-author)....182–190

GUTHMANN, HARRY G. Making Home Ownership Safe.... 26–31

LYNCH, EDWARD S. Railroad Pick-up and Delivery. 120–132

MARLETT, D. L. A Regulatory Dilemma: Limited-Term Franchises, Municipal Competition and Ouster Proceedings....246–253

MORRISON, HUNTER. Economic Justification for Regulating Competitive Truck and Rail Rates.... 66–71

NELSON, JAMES C. Coordination of Transportation by Regulation....167–181

OSTRANDER, E. D. Public Utility Financing in the Fourth Quarter and the Year, 1937.... 72–77

PLUM, LESTER V. A Critique of the Federal Power Act....147–161

PROUDFOOT, MALCOLM J. The Selection of a Business Site....370–381

RANSMEIER, J. S. Regulation of Service Charges in Holding Company Systems.... 32–39

RENNE, R. R. Land Credit Practices and Successful Farm Operation....442–451

RUSSELL, HORACE. Land Title Examination: An Appraisal (David A. Bridewell, co-author)....133–146

———. Mortgage Law and Mortgage Lending (David A. Bridewell, co-author)....301–321

THURSTON, JOHN. The Toronto Transportation Commission.... 10–18

TROXEL, C. EMERY. Obsolescence of Public Utility Property....266–272, 431–441

WHEELER, BAYARD O. The Production and Distribution of Bonneville Power....359–369

WILSON, A. D. Settler Relocation: A Description of the Minnesota Plan....402–416

DEPARTMENT ARTICLES

Amendments to Title II of the National Housing Act. 203–204

Another Victory for TVA.... 95

Appraisal of Edison Electric Institute's Statistics on Farm Electrification, An....471–476

Appraising Real Estate for Tax Purposes: The Income Method....452–454

Chicago's Housing Congress....204–206

Chronology of Two "Old-Age" Rate Controversies.. 99–105

Constitutionality of Federal Savings and Loan Associations, The....325–327

Coordinated Attack on Non-Conforming Uses, A...458–459

Current Recession as Reflected in Wisconsin Kilowatt-Hour Sales, The.... 95–98

Current Trends in Real Estate....454–458

Disparities in Land Values....201–203

Districts for Soil Conservation.... 91–94

Extent of Metered Water Service in Wisconsin and Its Effect on Pumpage....224–227

Federal Natural Gas Act, The....466–468

From Veto to Validation of the Wisconsin Development Authority....340–341

Importance of the Electric Bond and Share Decision, The....218–219

Judicial Veto in Wisconsin, A.... 98–99

Latest Phase in Federal Housing Legislation, The.. 78–81

"Low-Cost Housing"—1938 Model....327–329

Mobility and Farm Tenancy....207–208

Morgan Case, The: The Supreme Court on Procedure in Administrative Adjudication....343–348

New Federal Spending and Public Ownership of Utilities, The....341–343

New Uses of County Zoning: The Jefferson County, Wisconsin Ordinance....460–462

1938 Revenue Act in Relation to Real Estate Operations, The....322–325

1937 State Legislation for Control of Soil Erosion..210–217

Note on Rents and Costs in PWA Housing Projects, A.... 81–83

Preparations for a Farm Tenancy Program in Iowa. 85–86

Public Utility Financing
In the First Quarter of 1938....219–221
In the Second Quarter of 1938....348–351

In the Third Quarter of 1938....468–471
Recent Developments in Tenancy Programs in North Carolina....208–210
Recent Progress in the Enactment of Rural Zoning Enabling Legislation....333–339
Splawn Committee Report on Relief for the Railroads, The....227–230
Subdivision Legislation in 1937.... 83–84
Tenancy—A Major Factor in Soil Conservation... 88–91
Tenancy in the Yazoo-Mississippi Delta.... 87–88
Tennessee Farm Tenure Activities....462–465
Texas Farm Tenure Activities....330–333
What Does—and Will—"Prudent Investment" Mean?....221–224

BOOK REVIEWS

BERCAW, LOUISE O. and HANNAY, ANNIE M. *Bibliography on Land Utilization, 1918–1936*....355
BERNSTEIN, E. M. *Public Utility Rate Making and the Price Level*....356
COLE, WILLIAM E. and CROWE, HUGH PRICE. *Recent Trends in Rural Planning*....109
CULVER, DOROTHY C., compiler. *Land Utilization: A Bibliography*....355
GULICK, LUTHER and URWICK, L. *Papers on the Science of Administration*....357
HESKE, FRANZ. *German Forestry*....354
KENNEDY, WILLIAM F. *The Objective Rate Plan*....110
MUMFORD, LEWIS. *The Culture of Cities*....352
National Resources Committee. *Our Cities: Their Role in the National Economy*....231
NELSON, HERBERT U. and NELSON, MARION LAWRENCE. *New Homes in Old Countries*....107
NOLEN, JOHN and HUBBARD, HENRY V. *Parkways and Land Values*....106
PETERSON, GEORGE M. *Diminishing Returns and Planned Economy*....108
RATHKOPF, CHARLES A. *The Law of Zoning and Planning in New York State*....353
ROBSON, WILLIAM A., editor. *Public Enterprise: Developments in Social Ownership and Control in Great Britain*.234
RUGGLES, C. O. *Aspects of the Organization, Functions, and Financing of State Public Utility Commissions*....232
SCHMIDT, CARL T. *The Plough and the Sword: Land, Labor and Property in Fascist Italy*....355
SHARFMAN, I. L. *The Interstate Commerce Commission.* (Part IV)....231
SMITH, G. BURCHARD. *New York Zoning Law and Practice*.353
STOLZ, LOUIS (Alexander Jamison, collaborator). *History of the Gas Industry*....356
THURSTON, JOHN. *Government Proprietary Corporations in the English-speaking Countries*....234
WARREN, GEORGE F. and PEARSON, FRANK A. *World Prices and the Building Industry*....106
ZWICKY, J. FRIEDRICH. *Public Utilities*....109

SUBJECT MATTER

A

Accounting, public utility
see Federal Power Act; Supreme Court utility decisions
Administrative tribunals, procedure of....343
"Agricultural Adjustment Act of 1938, The: A Symposium," by Lloyd S. Tenny, B. H. Hibbard, O. B. Jesness, Helen C. Monchow, Edward A. O'Neal, and L. J. Taber....162–166
Act in brief....162
opinions on Act....163
Agricultural land
see County planning and zoning; Farm credit; Farm tenancy; Soil conservation
Alabama Power Co. v. Ickes....1, 342
"Amendments to Title II of the National Housing Act"....203–204
"Another Victory for TVA".... 95
"Appraisal of Edison Electric Institute's Statistics on Farm Electrification, An"....471–476
"Appraising Real Estate for Tax Purposes: The Income Method"....452–454
"Are Twenty-Year Mortgage Loans Safe?" by Robert C. Beach....19–25
Arizona, real estate license law.... 83
Assessment
see Land values; Public utility tax revenues

B

Blighted areas
see Housing enforcement program
Bonneville power, production and distribution of
administration of project....362
cost allocation....363
history and legislative background....361
marketing of power....366
wholesale rate structure....364
Building and loan associations
see Housing and business recovery; Savings and loan associations
Building industry
see Housing and business recovery; Housing, prospects for; Real estate, current trends in
"Business Recovery and the Housing Program in Great Britain," by Harold Bellman....111–119
Business site, selection of
in rural areas....379
in urban areas....371

C

California
subdivision plat control.... 84
see also Truck and rail rates
Central Illinois Electric & Gas Co., Village of Heyworth v..246
Chicago
see Housing, prospects for; Tax receivership
"Chicago's Housing Congress"....204–206
"Chronology of Two 'Old-Age' Rate Controversies"..99–105
City of Geneseo v. Illinois Northern Utilities Co.....246
City planning
see Business site; Non-conforming use; Urban land
Columbia River
see Bonneville power
Competition, public utility
see Franchises; Railroad abandonment; Supreme Court utility decisions; Tennessee Valley Authority; Truck and rail rates; "Winnipeg Municipal Electric Utility"
Conservation
see Soil conservation
"Constitutionality of Federal Savings and Loan Associations, The"....325–327
"Coordinated Attack on Non-Conforming Uses, A"..458–459

"Coordination of Transportation by Regulation," by James C. Nelson....167–181
County planning and zoning
ordinance of Jefferson Co., Wis....461
see also Zoning, rural
"Critique of the Federal Power Act, A," by Lester V. Plum....147–161
"Current Recession as Reflected in Wisconsin Kilowatt-Hour Sales, The"....95–98
"Current Trends in Real Estate"....454–458

D

Depreciation
see Housing, prospects for; Mortgage financing, length of loan term; Obsolescence
"Disparities in Land Values"....201–203
"Districts for Soil Conservation"....91–94

E

"Economic Justification for Regulating Competitive Truck and Rail Rates," by Hunter Morrison....66–71
Edison Electric Institute....471
Electric Bond and Share Co., Securities & Exchange Commission v.....218
Electric utilities
recession, effect of, in Wisconsin.... 95
see also Bonneville power; Franchises; Rural electrification; Tennessee Valley Authority; "Winnipeg Municipal Electric Utility"
Emergency Railroad Transportation Act of 1933....167
England....111
Erosion
see Soil conservation
Ever-normal granary....162ff.
"Extent of Metered Water Service in Wisconsin and Its Effect on Pumpage"....224–227

F

Farm credit
and successful farm operation, in Montana
bankruptcy, record of....444
bankrupts, characteristics of....446
causal factors....449
credit factors....443
loan policies suggested....449
North Dakota system of
administration and allocation of loans....274
collection and delinquency of loans....277
loan delinquency, causes of....280
real estate bonds, condition of....282
see also Resettlement
Farm electrification
see Rural electrification
Farm tenancy
program in Iowa.... 85
program in North Carolina....208
program in Oklahoma.... 88
program in South Carolina....207
program in Tennessee....462
program in Texas....330
program in Yazoo-Mississippi Delta.... 87
Federal Housing Administration
see Housing, prospects for; Mortgage financing and mortgage law; National Housing Act
"Federal Natural Gas Act, The"....466–468
Federal Power Act, critique of
coordination of power properties....150
supplementing state regulation....154
see also Gas utilities
Federal Transportation Authority....228
Financing, public utility
in fourth quarter, 1937.... 72
in year, 1937.... 74
in first quarter, 1938....219
in second quarter, 1938....348
in third quarter, 1938....468
First Federal Savings and Loan Assn. of Wis. v. Loomis....325
Flood control
see Bonneville power
Flood-plain zoning
see County planning and zoning
Florida, rural zoning law....336
Foreclosures
see Housing, prospects for; Mortgage financing and mortgage law; Real estate, current trends in
"Forfeiture of Real Property Rights through Tax Delinquency," by H. K. Allen....382–387
Franchises, limited-term
certificate of convenience and necessity....252
Geneseo (Ill.) case, facts of....246
legal status of complainant....249
public interest, proof of....251
public streets, control of....249
"From Veto to Validation of the Wisconsin Development Authority"....340–341

G

Gas utilities, federal regulation of....466
Georgia, rural zoning law....334
Great Britain....111
"Green belts"....255

H

Harold L. Ickes, et al., Alabama Power Co. v.....342
Holding companies
registration with SEC upheld....218
service charges, regulation of
federal and state legislation.... 34
in unregistered systems.... 38
1935 act in operation.... 36
reasonable service charge.... 32
SEC administrative policy.... 35
Home financing
see Mortgage financing; Savings and loan associations
Home Owners' Loan Corporation
see Mortgage financing and mortgage law; Title examination
Home ownership
see Mortgage financing; National Housing Act
"House that Franklin Built, The," by John H. Cover 235–245
Housing
and business recovery, in Great Britain
boom under private enterprise....114
British control techniques....118
contribution of building societies....115
government activity to 1931....113
relation to British financial system....116
enforcement program
cooperative program proposed....187
housing for relief workers....187
Memphis survey....183
subsidized housing a failure....189
two attacks on better slum areas....185
prospects for, under new federal legislation
amortization provisions....240
building costs, effect of....243
inapplicability of law to large cities....241
mortgage insurance, cost of....238

mortgage insurance, extent of....237
national mortgage associations, effect of....244
relation of loan to value....239
rents and costs in PWA projects.... 81
see also National Housing Act; U. S. Housing Act; Urban land

I

Illinois Bell Telephone Co....102
Illinois Northern Utilities Co., City of Geneseo v.....246
Illinois Tax Receivership Act....417
"Importance of the Electric Bond and Share Decision, The"....218–219
"Important Public Utility Decisions by the Supreme Court and Their Public Implications," by John Bauer. 1–9
Income method of appraisal
see "Appraising Real Estate for Tax Purposes"
Indianapolis Water Co., McCart v..... 1
Interstate Commerce Commission
see Railroad abandonment; Railroads; Transportation
Iowa, farm tenancy program in.... 85
Irrigation
see Bonneville power

J

"Judicial Veto in Wisconsin, A"....98–99

K

Kansas, soil conservation law....214
Kansas City stockyards, rates at....343

L

"Land Credit Practices and Successful Farm Operation," by R. R. Renne....442–451
Land planning
see Resettlement; Soil conservation; "Subdivision Legislation in 1937"; Urban land; Zoning, rural
"Land Reserves for American Cities," by Harold S. Buttenheim and Philip H. Cornick....254–265
Land tenure
see Farm tenancy
"Land Title Examination: An Appraisal," by Horace Russell and David A. Bridewell....133–146
"Land Title Underwriter, The," by Daniel D. Gage, Jr..56–65
Land values, disparities in....201
"Latest Phase in Federal Housing Legislation, The"..78–81
Loomis, First Federal Savings and Loan Association of Wisconsin v.....325
" 'Low-Cost Housing'—1938 Model"....327–329

M

"Making Home Ownership Safe," by Harry G. Guthmann....26–31
McCart v. Indianapolis Water Co..... 1
Memphis, housing enforcement program in....182
Michigan, rural zoning law....336
Minnesota, resettlement program in....402
"Mobility and Farm Tenancy"....207–208
Montana, farm credit problems in....442
"Morgan Case, The: The Supreme Court on Procedure in Administrative Adjudication"....343–348
Mortgage financing
amortization policies
percentage of loan to value.... 26
principal and interest payments.... 30
and mortgage law
benefits of uniform mortgage law....320
diversity in law....303
foreclosure procedures, inefficiency of....306
mortgage instruments, inefficiency of....306
Uniform Mortgage Act, proposed....315
length of loan term
depreciation and obsolescence, effect of.... 22
family income, effect of.... 23
neighborhood depreciation, effect of.... 23
real estate prices, effect of.... 20
see also Farm credit; Housing and business recovery; National Housing Act; Real estate, current trends in; Savings and loan associations
Mortgage insurance
see Housing, prospects for; Mortgage financing and mortgage law; National Housing Act
"Mortgage Law and Mortgage Lending," by Horace Russell and David A. Bridewell....301–321
Motor carriers
see Pick-up and delivery by railroads; Railroad abandonment; Transportation, coordination of, Truck and rail rates
Municipal utilities
see Franchises, limited-term; Public ownership; Supreme Court utility decisions; "Winnipeg Municipal Electric Utility"

N

National Housing Act
amendments to Title II....203
1938 amendments.... 78
relation to land title examination....133
see also Housing, prospects for; Mortgage financing and mortgage law
National mortgage associations
see Housing, prospects for
New England, railroad abandonment in....40, 191
"New Federal Spending and Public Ownership of Utilities, The"....341–343
New Jersey, distribution of utility tax revenues in....284
New Mexico, soil conservation law....211
"New Uses of County Zoning: The Jefferson County, Wisconsin Ordinance"....460–462
New York Telephone Co.... 99
"1938 Revenue Act in Relation to Real Estate Operations, The"....322–325
"1937 State Legislation for Control of Soil Eorision"..210–217
Non-conforming use, coordinated attack on....458
North Carolina, farm tenancy program in....208
"North Dakota Rural Credit System, The," by Gilbert W. Cooke....273–282
"Note on Rents and Costs in PWA Housing Projects, A"....81–83

O

"Object Lesson in Tax Sharing, An: The Distribution of Public Utility Tax Revenues to Municipalities in New Jersey," by Denzel C. Cline....284–300
"Obsolescence of Public Utility Property," by C. Emery Troxel....266–272, 431–441
court and commission opinions....431
desirable regulatory practice, summary of....269
measurement of....267
nature of....266
Oklahoma
farm tenancy program in.... 88
soil conservation law....213
Oregon, soil conservation law....212
Ouster proceedings, public utility....246

P

Pacific Gas & Electric Co. v. Railroad Commission....221
Packers and Stockyards Act....343
Pennsylvania, real estate license law.... 83

Pick-up and delivery by railroads
economics of....126
history of the service....120
legal status of....131
present situation....123
reasons for development of....124
results of....128
"Preparations for a Farm Tenancy Program in Iowa"..85–86
"Problems of a Housing Enforcement Program," by L. M. Graves and Alfred H. Fletcher....182–190
"Production and Distribution of Bonneville Power," by Bayard O. Wheeler....359–369
Prudent investment, meaning of....221
see also Supreme Court utility decisions
Public ownership
and federal spending....341
see also Franchises, limited term; Supreme Court utility decisions; Toronto Transportation Commission; Tennessee Valley Authority; Urban land; "Winnipeg Municipal Electric Utility"; Wisconsin Development Authority
Public utilities
see Administrative tribunals; Bonneville power; Electric utilities; Federal Power Act; Financing; Franchises; Gas utilities; Holding companies; Obsolescence; Public ownership; Public utility tax revenues; Railroad abandonment; Railroads; Rural electrification; Supreme Court utility decisions; Telephone rates; Tennessee Valley Authority; Toronto Transportation Commission; Truck and rail rates; Water utilities; "Winnipeg Municipal Electric Utility"; Wisconsin Development Authority
"Public Utility Financing":
"In the Fourth Quarter and Year 1937"....72–77
"In the First Quarter of 1938"....219–221
"In the Second Quarter of 1938"....348–351
"In the Third Quarter of 1938"....468–471
Public utility tax revenues
distribution of, in New Jersey
apportionment problem....292
franchise and gross receipts taxes....284
litigation on assessments....288
new legislation, demand for....291
proposal, a....300
uniform valuations, attempt to secure....286
Public Works Administration
see Housing; Supreme Court utility decisions

R

"Railroad Abandonment in New England, 1921–1937," by Charles Cherington....40–55, 191–200
causes of abandonment....47
control of....191
effects of, on transport facilities....196
extent of abandonment....43
future of....199
New England network, nature of....41
Railroad Commission of California v. Pacific Gas & Electric Co.....1, 221
"Railroad Pick-up and Delivery," by Edward S. Lynch....120–132
Railroads
proposals for relief of....227
see also Pick-up and delivery by; Transportation, coordination of; Truck and rail rates
Rate-base
see Obsolescence; Prudent investment; Supreme Court utility decisions
Rates
see Bonneville power; Federal Power Act; Telephone rates; Truck and rail rates; "Winnipeg Municipal Electric Utility"
Real estate
current trends in....454
license law revisions....83
see also "Appraising Real Estate for Tax Purposes"; Land values; Mortgage financing; National Housing Act; Revenue Act of 1938; "Subdivision Legislation in 1937"; Title examination; Title insurance
Real property rights
see Tax delinquency
"Recent Developments in Tenancy Programs in North Carolina"....208–210
"Recent Progress in the Enactment of Rural Zoning Enabling Legislation"....333–339
Regulation
see Administrative tribunals; Bonneville power; Federal Power Act; Franchises; Gas utilities; Holding companies; Obsolescence; Prudent investment; Railroad abandonment; Railroads; Supreme Court utility decisions; Telephone rates; Tennessee Valley Authority; Transportation; Truck and rail rates; "Winnipeg Municipal Electric Utility"; Wisconsin Development Authority
"Regulation of Service Charges in Holding Company Systems," by J. S. Ransmeier....32–39
"Regulatory Dilemma, A: Limited-Term Franchises, Municipal Competition and Ouster Proceedings," by D. L. Marlett....246–253
Rents
see Housing in PWA projects; Real estate, current trends in
Reproduction cost
see Supreme Court utility decisions
Resettlement, Minnesota plan
building problems....415
character of settlers....405, 409
farm debts....415
"grubstake plan"....413
results....416
submarginal land, prices for....409
Residential construction
see Real estate, current trends in
Revenue Act of 1938, effect on real estate operations....322
Rural electrification
EEI statistics appraised....471
see also Electric utilities, recession, effect of, in Wisconsin; Public ownership
Rural zoning
see also County planning and zoning

S

Savings and loan associations
constitutionality of federal....325
see also Housing and business recovery; Mortgage financing
Securities and Exchange Commission v. Electric Bond & Share Co.....218
Securities and Exchange Commission
relations with Federal Power Commission....153
see also Holding companies
"Selection of a Business Site, The," by Malcolm J. Proudfoot....370–381
Service charges
see Holding companies
"Settler Relocation: A Description of the Minnesota Plan," by A. D. Wilson....402–416
Skyscrapers
see Land values
Slum clearance
see Housing enforcement program

Soil conservation
districts for 91
relation to farm tenancy 88
state legislation for, 1937 210
see also Agricultural Adjustment Act; Farm tenancy
South Carolina, farm tenancy program in 207
"Splawn Committee Report on Relief for the Railroads, The" 227–230
State of Wisconsin ex rel. Wisconsin Development Authority v. Dammann 98
Street railways
see Toronto Transportation Commission
"Subdivision Legislation in 1937" 83–84
Subdivisions
see Land values; Urban land
Submarginal land, purchase of
see Resettlement
Supreme Court utility decisions
accounting control 9
factual rate-base needed 8
Indianapolis water case 7
Pacific Gas and Electric case 3
PWA decision 1

T

Tax delinquency
effect on real property rights
limitations on property rights 383
nature of property rights 382
reversion 386
tax liens, enforcement of 384
tax titles and tax-sale machinery 386
see also Resettlement; Tax receivership; Urban land
"Tax Receivership: Five Years of Experience in Chicago," by Russell Sherman Bernhard
jurisdiction, problem of 419
procedure under receivership 419
receivership act summarized 418
results of 421
tax situation prior to act 417
Taxation
see "Appraising Real Estate for Tax Purposes"; Public utility tax revenues; Revenue Act of 1938; Urban land
Telephone rates 99
Tenancy
see Farm tenancy
"Tenancy—A Major Factor in Soil Conservation" 88–91
"Tenancy in the Yazoo-Mississippi Delta" 87–88
Tennessee Electric Power Co. v. Tennessee Valley Authority 95
"Tennessee Farm Tenure Activities" 462–465
Tennessee Valley Authority, constitutionality sustained. 95
"Texas Farm Tenure Activities" 330–333
Title examination
critique of existing methods 142
HOLC experience analyzed 136
land title registration system 144
methods of 133
Title insurance
extent of 63
financial responsibility 60
future of 64
methods of 57
types of companies 58
"Toronto Transportation Commission, The," by John Thurston 10–18
background of 11
financing 13
legal status of 12
organization and management 14
public control 17
Torrens system 144
Transportation
coordination of
coordination by regulation, meaning of 170
economic validity of coordination by regulation 171
emergency legislation of 1933 167
Interstate Commerce Commission, reorganization of. 180
legal proposals of Coordinator 169
see also Pick-up and delivery by railroads; Railroad abandonment; Railroads; Toronto Transportation Commission; Truck and rail rates
Truck and rail rates, regulation of
objectives 66
truck transport, economics of 68
why regulate trucking 70

U

Uniform Mortgage Act 315
United States, Morgan v. 343
United States Housing Act 249
1938 amendments to 327
Urban land
public ownership of
acquisition, methods of 258
green belts and green wedges 255
planning and zoning procedures, effect of 263
premature subdivision and tax delinquency 261
tax delinquent lands as public reserves 260
taxation, effect of 264
see also Land values

V

Valuation
see Farm credit; Land values; Obsolescence; Prudent investment; Public utility tax revenues; Supreme Court utility decisions
Village of Heyworth v. Central Illinois Electric & Gas Co. ..246
Virginia, rural zoning law 335

W

Washington, State of, subdivision control 84
Water carriers
see Transportation, coordination of
Water power
see Bonneville power
Water utilities, metered service in Wisconsin 224
"What Does—and Will—'Prudent Investment' Mean?" 221–224
Wind erosion
see Soil conservation
"Winnipeg Municipal Electric Utility: I. Rate Policy and Rates Charged," by Lawrence S. Dreiman 388–401
competitive situation 388
consumption data 398
rate comparisons 389
rate policy 395
rate reductions and individual rates 397
Wisconsin
see County planning and zoning; Electric utilities; Water utilities
Wisconsin Development Authority Act 98, 340

Y

Yazoo-Mississippi Delta, farm tenancy program 87

Z

Zoning
see Non-conforming use; Urban land
Zoning, rural, recent legislation 333

If You Are Interested in the Economics of Agriculture You Should Read

THE JOURNAL OF FARM ECONOMICS

The major articles appearing in the August, 1938 issue are an indication of the type of subject matter treated.

Farm Credit and Government — *E. C. Young*

Social Welfare and Differential Prices — *George J. Stigler*
Rejoinder — *Frederick V. Waugh*

Trade and Trade Agreements between Canada, the United States and Great Britain — *W. M. Drummond*

Some Technological Changes in the High Plains Cotton Area of Texas — *C. A. Bonnen and A. C. Magee*

The Soil and the Law: II — *Philip M. Glick*

Determination of Sales and Lease Values of Private and Public Range Lands — *Marion Clawson*

Hillville: A Haven of Refuge — *Carle C. Zimmerman*

THE JOURNAL OF FARM ECONOMICS

Subscription—$5.00 per year. Published in February, May, August, November.

The annual volume contains 1000 pages.

Address inquiries to

The American Farm Economic Association
Agricultural Hall
University of Wisconsin, Madison, Wisconsin

THE JOURNAL OF AIR LAW

Edited by the

AIR LAW INSTITUTE

January, 1938

Proceedings of the Seventh Annual Convention of the National Association of State Aviation Officials, December 1-3, 1937.

Annual Report of President ..... *Gill Robb Wilson*

Aeronautical Law Review—1937 ..... *George B. Logan*

Allies in Air Advancement ..... *J. Monroe Johnson*

Rationalization of Air Transport ..... *Edgar S. Gorrell*

April, 1938

The Canadian Law of Civil Aviation ..... *B. V. Richardson*

Flights Abroad and the Role of the Department of State ..... *Irving L. Thomson*

July, 1938

The Civil Aeronautics Act of 1938 ..... *Clinton M. Hester*

A Closed Chapter in Aeritime Law ..... *E. H. A.*

Pan American Cooperation in Aeronautics ..... *James L. Brown*

Subscription Price, $5.00 a Year

Foreign, $5.50

AIR LAW INSTITUTE

Northwestern University Law School, Chicago